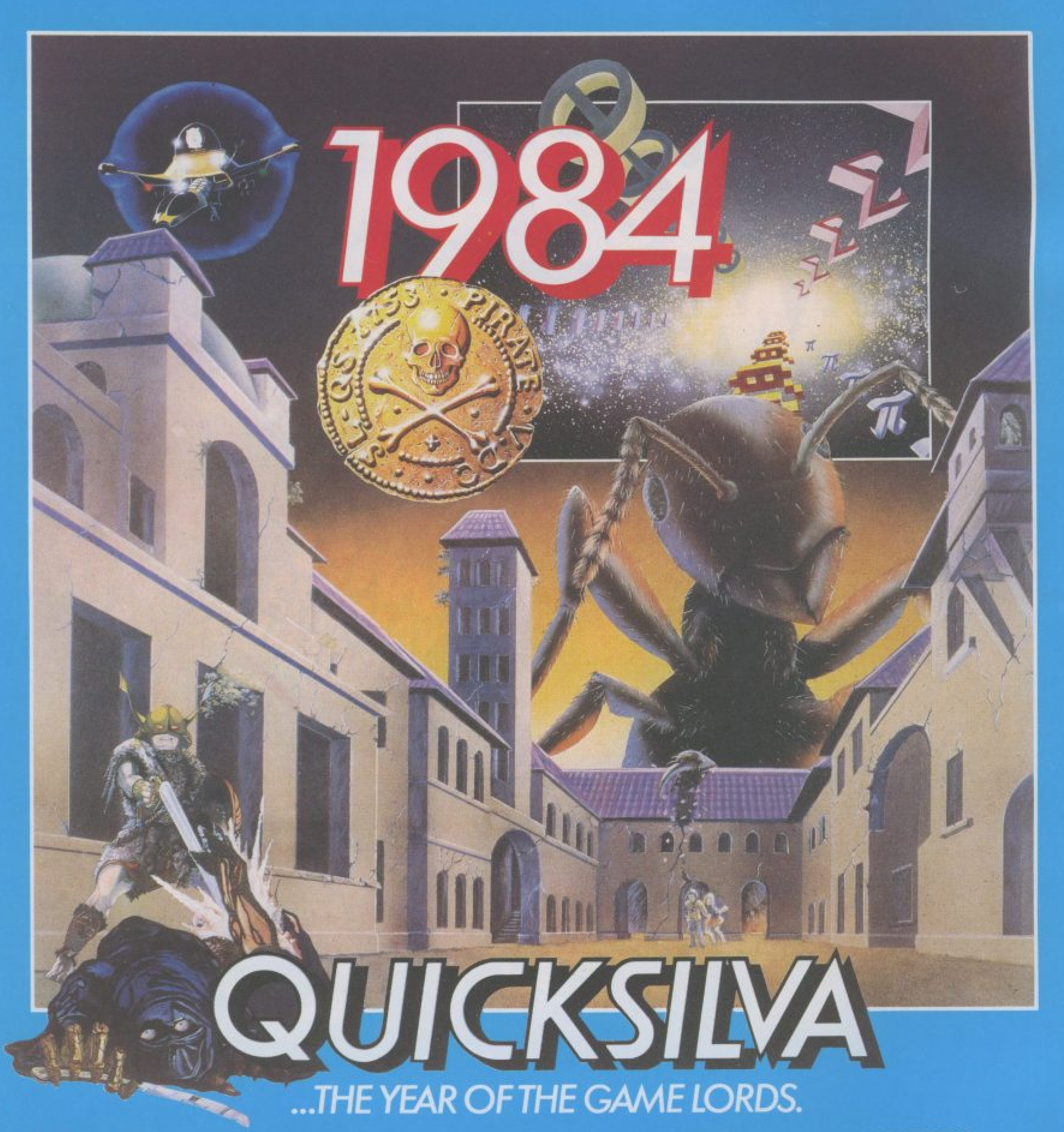

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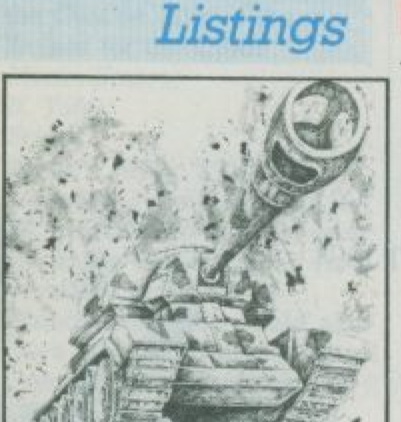
Sounds good

This issue *C&VG* takes a step sideways and into the world of musical micros. We've persuaded Vince Clarke, ex of *Depeche Mode* and of *Yazoo* and now masterminding *The Assembly,* to judge a very special competition based on the music programs you'll find inside this issue. We've also persuaded our friends at Yamaha — the manufacturers of some of the world's most sophisticated keyboards — to provide some terrific prizes for our winners. You'll find out all the details on page 45. We've also come up with some nifty little programs on page 56 to turn your front room into a light show! And we also, finally, announce the winner of our Seventh Empire epic. Really!

News & Reviews



Listings





Features

Editor Tim Metcalfe, **Assistant editor** Eugene Lacey, **Editorial assistant** Clare Edgeley, **Reader services** Robert Schifreen (01-278 3881), **Art Editor** Linda Freeman, **Designer** Lynda Skerry, **Sub editor** Mary Morton, **Staff writer** Seamus St John, **Advertisement manager** Rob Cameron, **Assistant advertisement manager** Louise Matthews, **Advertising executives** Bernard Dugdale, Sean Brennan, **Advertisement assistant** Melanie Paulo, **Production assistant** Roy Stephens, **Publisher** Tom Moloney, **Assistant publisher** Rita Lewis
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Cover Illustration: **Mickey Finn**   Next issue: **April 16**

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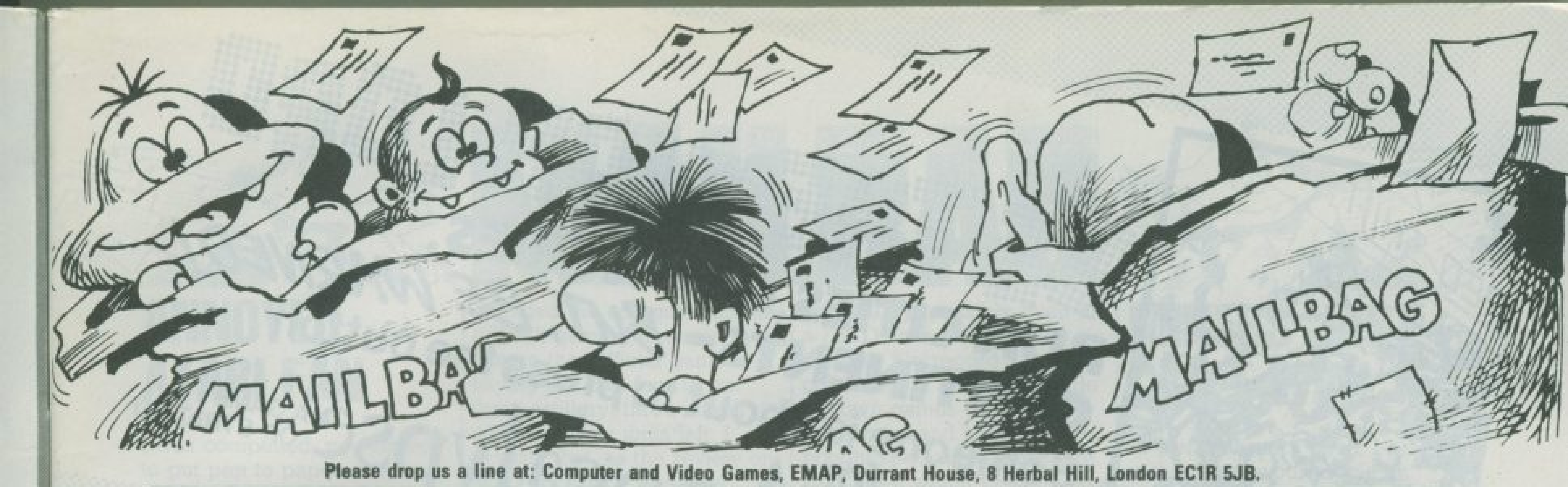
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CHEAP DEAL FOR 64 . . .

Dear Sir,
I would like to point out that in your December issue you stated that a Commodore 64 cost around £285 with cassette recorder. I recently purchased the CBM 64 for £250 with manual — Introduction to Basic, Part 1 — cartridge game — Radar Rat Race — leads and cassette recorder. Perhaps other readers have come across this bargain?

Could you please advise me on buying a Scramble for the CBM 64. Also is there a Zaxxon for the CBM?

Martin Emery,
N. Yate,
Bristol.

Editor's reply: There is a Scramble-type game for the 64, Martin. It's called Super Skramble and it comes from Terminal Software of Manchester. You could also have a look at Falcon Patrol from Virgin. There's not a Zaxxon for the 64 as yet.

TRY PLAYING ADVENTURES!

Dear Sir,
Having just read your January *Mailbag*, I totally disagree with Mr Goodwin. If he thinks that all the Spectrum games are just "childish tripe" then he is totally wrong.

He only has to look at one Spectrum game and see what the average standard is!

The game I have in mind is *The Hobbit* — a superb game which I think will be "taxing" enough. If this is not good enough, then he can try Cyrus' Chess or many of the other Adventure games on offer.

I would say that David Gardner, who also wrote in the January issue, saying that Atari software does not make use of its sound, is wrong. Atari owners may pay the most but they get what they pay for — the best sound and graphics, better than any other micros for its price.

Is there a cassette of Donkey Kong for the Atari? Would it be cheaper than the cartridge version?

J Sheldon,
Chiswick,
London.

Editor's reply: Even though it is more expensive, check out the official version of Donkey Kong from Atari. It is by far the best we've seen. I'm afraid we don't know of a cassette Kong.

LOOKING FOR GOOD GAMES

Dear Sir,
Please could you give me advice on which Donkey Kong cassette is the best buy for the 48k Spectrum? Also I would like to know if there is a Gorf arcade-like game for my Spectrum. I have been looking for ages but I have not had any luck. Finally, which Asteroids is the best buy?

Darren Byrne,
Allestree,
Derby.

Editor's reply: In answer to your questions, Darren, I would advise you to go to your nearest store where a good selection of games are available to view and have a look at Ocean's Donkey Kong. As far as I am aware at the present time, Gorf isn't available for the Spectrum and lastly, try Planetoids from Sinclair.

DEFINING GRAPHICS

Dear Sir,
I buy your magazine every month and I am very pleased with your Vic-20 features, but I have one problem which I hope you can solve. Nobody I know can solve it and neither can the reference guide which I have purchased. The problem is to do with programmable graphics.

I know how to make the characters using DATA statements, but I do not know how to use these characters within a program or how to call them up to print them within a program.

I understand how to use the user defined function on the Spectrum which is much easier, but I would like to be able to understand how to use this capability on my Vic-20.

Kevin Page,
Norwich,
Norfolk.

Editor's reply: In answer to your problem, Kevin, here is a short program to include user defined graphics in your programs:

```
10 POKE 56,28
20 DATA (Your character's DATA statement)
30 DATA 999
40 RESTORE
50 I=O
60 READ A: IF A=999 THEN 80
70 POKE 7168+I,A:I=I+1:GOTO 60
80 POKE 36869,255.
```

You can write the rest of your program with this either at the start as a subroutine, or wherever you need it. The user defined graphics start at the @ graphic and continue A,B,C, etc.

FORGOTTEN APPLES?

Dear Sir,
You seem to have stopped the games reviews for the Apple computers, which may be an expensive computer, but there do seem to be lots of Apple owners who cannot get any information about games available and when they are released.

If possible, could you bring back news of software on the Apple II, II+ and IIE? Though you may think Apples are very expensive, I got mine for around £200 while the normal retail price is £500-£700.

I find your magazine interesting and well written. Keep up the good work!

Keung Lee,
Mid-Glamorgan,
Wales.

Editor's reply: We will try to bring you news of Apple games, Keung. In fact you'll soon be seeing some Apple adventures reviewed in the magazine. Don't despair, we haven't forgotten your favourite micro.

THE TROUBLE WITH VIC . . .

Dear Sir,
I bought my son a Vic-20 for Christmas only to find that the tape did not run and the computer was found to be faulty. The machine was exchanged. With this second computer, he found that it would not hold a program, so this was again returned. The third time the cassette gave in after a couple of days. Finally he decided that he would have a different make.

The one he chose was a Sord M5 with a 20k memory which has not given any trouble and the makers, C.G.L., have been very helpful, even giving a telephone number he can ring if he has any kind of problem.

Have any of your readers had problems with the Vic-20? I would also like to know if you intend to publish programs for the Sord.

K J Harper,
Telford,
Shropshire.

Editor's reply: Sorry to hear you've had so many problems with your Vic. We'll be printing programs for the Sord as soon as we get some, Mr Harper.



MAILBAG



ANNOYED ATARI FAN

Dear Sir,
I was compelled, nay forced, to put pen to paper after reading David Gardener's letter concerning Atari sound. I read with total astonishment that the Commodore 64 (jumped up Vic-20 perhaps?) has vastly superior sound to the magnificent Atari 800. After banging my head against the wall several times, I read it again. Yep! That's what it says! Has this man had his head buried in the ground for the last few years or is he just deaf!

Perhaps he ought to listen to the sound on Preppie or Shamus or Necromancer or — well the list is endless! I think he may have judged it by listening to Choplifter, which I concede is absolutely terrible although graphically quite good.

No computer can compete with the 800's sound capability, with the exception of the new XL range. Also he states that the games for the 64 can be made as good as the Atari's. Well, isn't it about time. After all these years the 800 has been on the market, it's only now that rival firms are coming anywhere close to being graphically as good — although still not better!

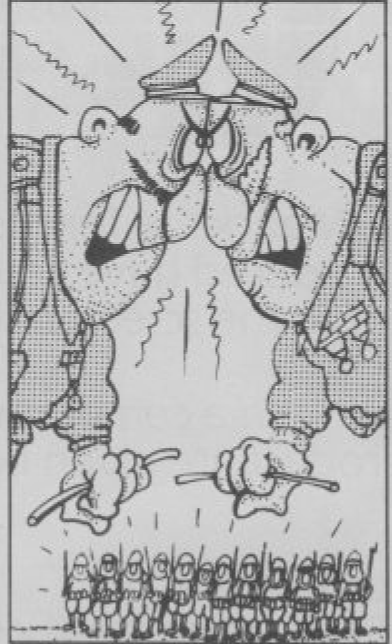
He wonders if 800 or 400 owners are biased — of course we are! Who wouldn't be when they have a machine which is so vastly superior in every department — gameswise — to any other home micro currently on the market. Maybe Mr Gardener should stick to the old ping-pong games and leave home micros well alone!
Gary Campbell,
Preston,
Lancs.

STONKERS IS POSSIBLE!

Dear Sir,
On reading your review on Stonkers, I decided to write and give my findings.

After playing the easy game twice, I defeated it with quite a few units to spare. Then straight after this I defeated the computer on the difficult game. I have since beaten the difficult game having still had four tanks, three artillery, three infantry and all supply units left. I thought that, as the review on Stonkers said it was very difficult, I would send in my best so far.

If other readers find the game as easy as I do, then obviously the reviewer has made an error, but perhaps Stonkers is my kind of game. I will have to try other strategy games and find out if I can do those just as easily.
D Horler
Havant
Hants



MICRO GAMES MINDLESS?

Dear Sir,
After reading Mike Goodwin's letter (Jan. 1984 issue), it prompted me to write to your magazine about the mindless use of computers.

The main problem, I think, is that the good side of computers is being cast aside. What started out as an educational project with games as a sideline to keep one's mind stimulated has been completely reversed, with people just buying computers according to how well they can play games.

I myself have used three types of computers, including the Spectrum, making my own programs to suit my own needs, whether it is a program to test French vocabulary (possibly even on a ZX81) or to make exam notes or file record collections. I have also made my own games (arcade and adventure) and have only bought speciality games like ZX Chess, which I have never regretted buying.

It is a sad state of affairs when one sees computers being bought as expensive toys. I'm sure that without those programmers who are dedicated enough to make games for other people, this will follow the same course as the skateboard craze.
Calvin Austin
Gillingham
Kent

Editor's reply: Here at *C&VG* we reckon that, although at first people may simply buy a micro to play games with, they soon get interested in their machine's other functions — like making exam notes or filing systems. In any event it's up to the individual what they want to get out of their micro, isn't it?

MAKE YOUR BBC BLEEP!

When the following program is run, it will enable the BBC to respond to a key being pressed with a bleep:

```
10 code%=&70
20 P%=code%
30 ?&0220=code% MOD 256
40 ?&0221=code% DIV 256
50 [
60    LDA £&07
70    JSR &FFEE
80    RTS
90 ].
```

To switch the bleep on/off use *FX 14,2/*FX 13,2 respectively.

If you have version 1.0 OS, then you will be able to vary the type of bleep you get using the following FX calls:
*FX 211,X where X is the channel number.
*FX 212,X where X is an envelope number (0-127 in steps of 4).
*FX 213,X where X is the pitch (0-255).
*FX 214,X where X is the duration (0-255).
Anwar Ali and Gary Woolridge,
Handsworth,
Birmingham,

MINERS JUST CAN'T WIN!

Dear Sir,
In your February issue, I read with interest your article on Miner Willy. As I read on, your article said that Software Projects would be announcing a super prize to the first person to complete all levels of this game, but this is not true! I cleared all 20 levels and with great haste I phoned Software Projects, but I was told the prize was for Jet Set Willy on the Spectrum.

Please publish this letter as I'm sure it would avoid confusion for other 64 owners.
Stephen Treharne
Burry Port
Dyfed

VIDEOGAMING HALL OF FAME?

Dear Sir,
I have been a regular reader of your magazine since it started, but over the last few months there seems to be more computer articles and less video game reports. This is excellent if you have a computer.

I feel not enough space is given to new releases (where are the reviews for Lady Bug, Space Panic, Cosmic Avenger etc?)

I think the Joystick Jury is a good idea, but the jury is very severe and I think the marking system should be improved.

I'd also like to see a Hall of Fame and Charts for Atari, Intellivision, ColecoVision and Vectrex machines.
Frank Paton,
Dundee,
Scotland.

OK Frank, point taken. A Hall of Fame for Videogaming is a great idea and one we may well take up. I can't make any apologies for the toughness of Joystick Jury though — with game cartridges retailing at around £30 each, the jury like to be absolutely certain before advising readers to part with their hard-earned cash.

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Rules of the competition and entry forms are included in the package. All entries will be acknowledged.

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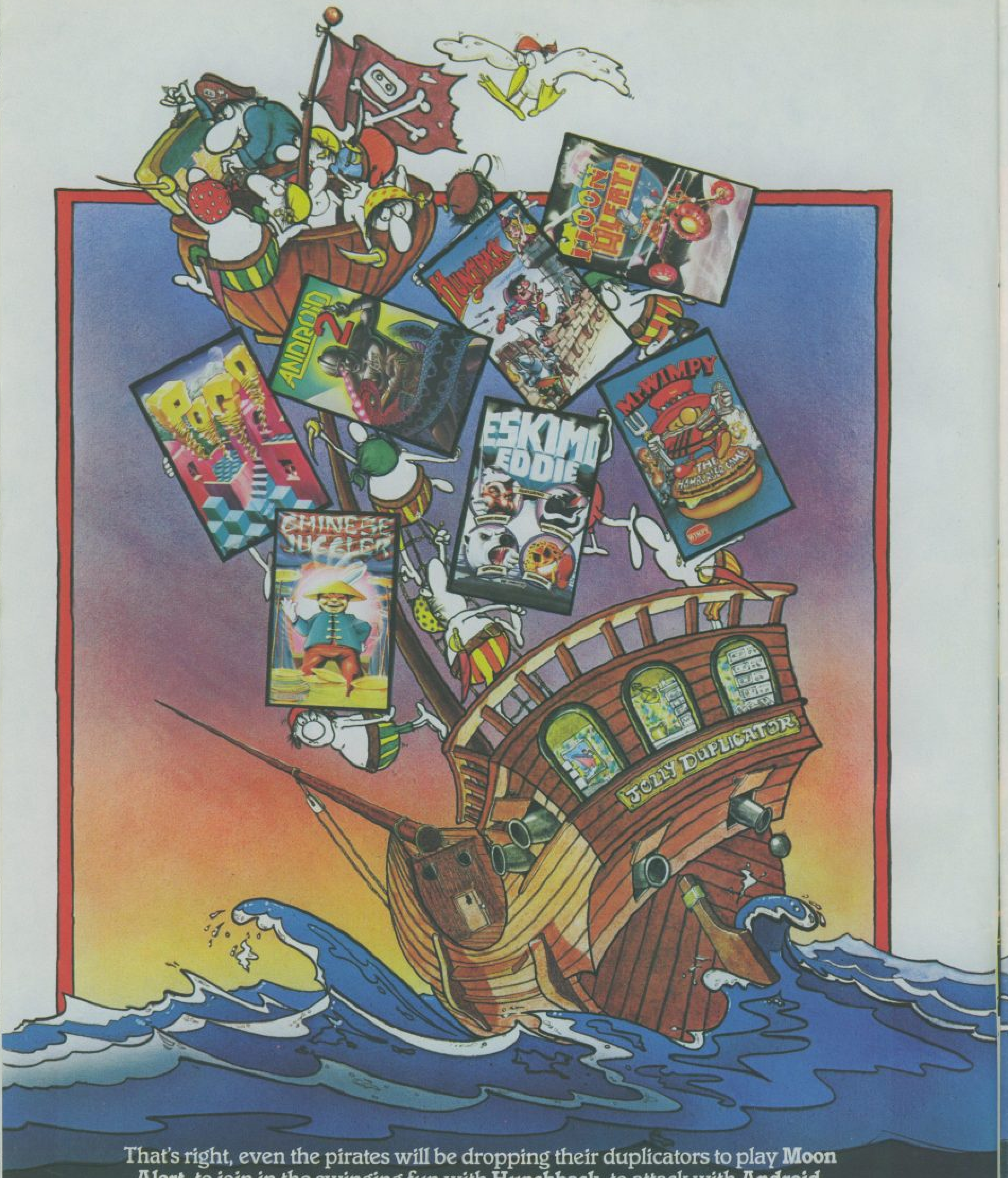
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That's right, even the pirates will be dropping their duplicators to play **Moon Alert**, to join in the swinging fun with **Hunchback**, to attack with **Android Two**, jump for their lives with **Pogo**, spin themselves dizzy with **Chinese Juggler**, they'll just crack-up with **Eskimo Eddie's** Arctic action and there will be no stopping the captain once he gets his hook on **Mr. Wimpy** that zany burger battle.

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CALISTO'S £5,000 WINNER!



Nineteen year old David Thomas is £5,000 richer and also looking forward to a career as a full time computer games writer with Adventure International as a result of entering one of our competitions.

Birmingham-based Calisto Software challenged *C&VG*'s readers in our June '83 edition to write a game good enough to sell commercially.

David immediately sat down at his Atari 800 and, after many hours bashing his keyboard, gave birth to Warlock — a super fast, Scramble-type; shoot-'em-up with truly stunning graphics.

Calisto were so impressed with the game that they have now marketed it commercially and are about to release a Commodore 64 version of the game.

The £5,000 cheque supplied by Calisto's managing director, Mike Woodruffe, was presented to David at the Golden Joystick awards in London last month by disc jockey — Dave Lee Travis.

David intends to spend a large part of his winnings on computer equipment to enable him to write more games.

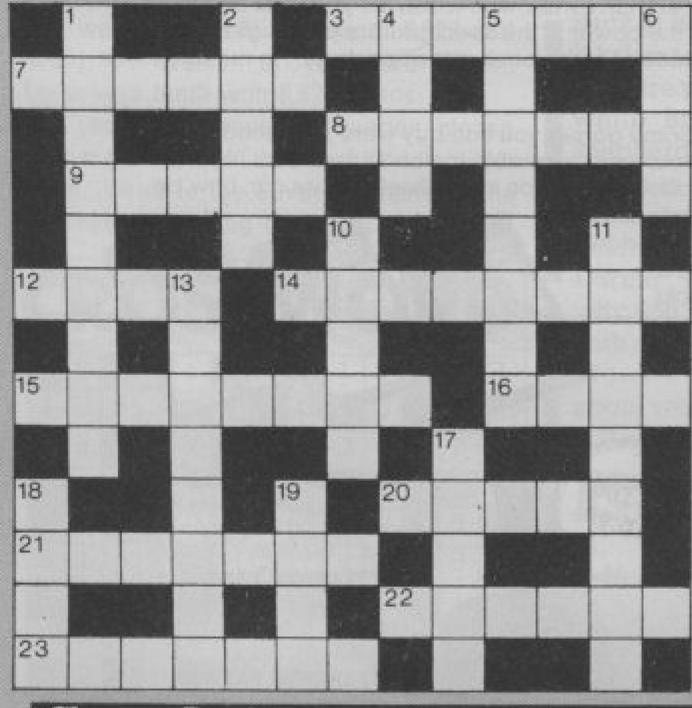
Writing games looks like becoming quite an important part of David's life as, since the competition, he has been offered a full time job by Adventure International.

Adventure International's boss, Scott Adams, has invited David over to the company's Florida head office in America to sign a contract and take a course in adventure writing techniques under the guidance of the grand master himself.

Which all goes to show — the biggest and best prizes are always in *C&VG*.

CROSSWORD

This is the first in a series of brand new *C&VG* crosswords. The first three correct answers out of the *C&VG* memory bin will get an amazing "The Champ" t-shirt. Just send your completed crossword to *Computer and Video Games*, Crossword, Durrant House, 8 Herbal Hill, London EC1R 5EJ.



Clues — Across

3. Computer game for a little green hopper . . . (7)
7. . . . and one that's all-consuming! (6)
8. Occupies enemy territory (7)
9. Stores a program (5)
12. Heavenly body (4)
14. It translates a high-level language into machine code (8)
15. Micro . . . wine barn? (anag.) (8)
16. TVs (4)
20. Out of tune, like the MZ80K? (5)
21. Dictionary (7)
22. Amusement area for video games (6)
23. Shooter (7)

Clues — Down

1. Tapes (9)
2. Wins at Chess (5)
4. It might give magical powers to the wearer (4)
5. Computer displays (8)
6. Chance taken (4)
10. Computer reasoning (5)
11. Myriapod game (9)
13. The study of automatons (8)
17. Map (5)
18. Users' group (4)
19. Morse, for example (4)

CALLING ALL THOSE CARTOONISTS

We regularly receive carefully drawn funnies from the pens of would-be cartoonists — the walls of the *Computer and Video Games* office are adorned with examples of their work. But as the magazine doesn't have a regular spot for cartoons, we don't really know what to do with them! Until now that is.

We've decided to let you run riot over our pages — and you could win a prize too! Just send us a cartoon about computers or video games — make it as original as possible please — and you could soon be the proud owner of (details of prizes).

There are six prizes — two for each age group. The categories are: Under 12, Under 18, Over 18. Don't forget to include your name, address and age on any entries you send us. Write them on the back of each cartoon you send us.

Remember you can pick any theme you like, but keep away from things we've already seen in other magazines and newspapers!

Send your entries to Cartoon Contest, *Computer and Video Games*, Durrant House, 8 Herbal Hill, London EC1R 5EJ. Closing date for the competition is April 16th — so get your pencils sharpened and start work now!

CALLING ALL DRAGONS!

Well this month we've decided to Leggit over to Wales where it's a well known fact that fire-breathing Dragons reign supreme.

We've got 100 Leggit tapes for the Dragon 32 to give away free, courtesy of Imagine Software. So get your trigger finger into training and prepare to fight for your life, bit by byte, past those fiery creatures to your nearest post office.

Send in your coupon, marked Dragon Leggit, to *Computer & Video Games*, 8 Herbal Hill, London EC1R 5EJ.

Name . . . .

Address . . . .

. . . .

. . . .



With the vast range of games now available for home computers each holds a different challenge. Now there are three Competition-Pro Joysticks in the Kempston range that will come to your aid and improve your playing capabilities. Your movements will become quicker, with finger poised over the fire button at the ready, your scores will be out of this world. Playing will be so much easier! If you're serious about the challenge your computer presents then you shouldn't be without a Kempston Competition-Pro Joystick.

NEW

PRO 1000

Ergonomically designed handle and base • 8-way arcade quality leaf switches for precision control • 5 foot cable to allow more comfortable playing positions • Rubber return for smooth control • Rubber protector pads on base • Base fire bar for left or right hand control •

NEW

PRO 3000

All the winning features of the Pro 1000 plus top fire button for precision one handed play • trigger fire button for true arcade realism •

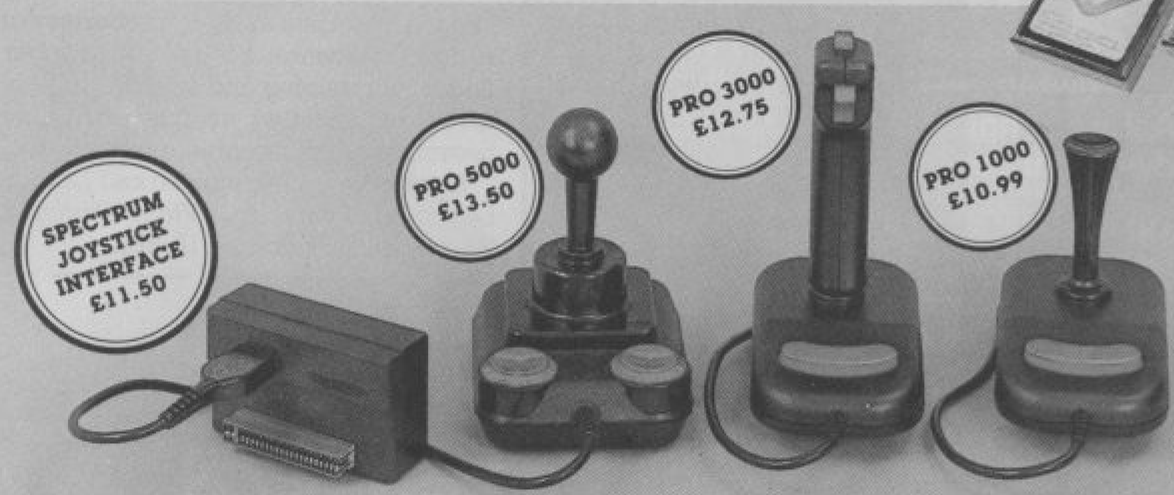
PRO 5000

Again all the winning features of the Pro 1000 but incorporating true craftsmanship plus large 1¼" control knob for comfortable play • Unique tapered shaft for maximum sensitivity • Dual independent fire buttons • Nylon covered steel shaft for maximum robustness

KEMPSTON JOYSTICK INTERFACE FOR THE ZX SPECTRUM

Allows the use of any Atari/Commodore type joystick with the popular ZX Spectrum computer. With well over 100 games on the Spectrum now compatible with the joystick this is a must for any Spectrum owner who wants the power of a joystick added to the power of the Spectrum. Simply plugs into the edge connector at the back of the Spectrum. No modifications necessary.

Some games you can buy were produced before Joysticks were available for the ZX Spectrum. With the aid of Kempston conversion tapes these games can now be played with any of the Kempston range of joysticks.



CONVERSION TAPE I
– Converts: Horace Goes Skiing, Hungry Horace, Flight Simulation (Sinclair), Arcadia, Penetrator, Spectres.

CONVERSION TAPE II
– Converts: Orbiter, Escape, Tanx, Centipede, Spectral Invaders, Cruising on Broadway, Frenzy.

CONVERSION TAPE III
– Converts: Ah Diddums, Jumping Jack, Molar Maul, Androids, Horace And the Spiders, Space Raiders, Winged Avenger, Muncher.

ALL £4.95 each



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Most items are available from W H Smith, Boots, Spectrum Computer Centres and good computing shops or direct from:

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Unit 30 Singer Way, Woburn Road Industrial Estate, Kempston, Bedford, MK42 7AF. Tel: (0234) 856633 Telex: 826078 KEMPMI G

THE SUN SETS ON THE SEVENTH EMPIRE

Well, it's finally over. The last turn of the Seventh Empire has been run, and a worthy winner has emerged.

And if your player number was 3201 then congratulations! You've won yourself a spanking new ColecoVision games centre, currently the best seller in the States.

But before you frantically search for that crumpled piece of paper with that magic number on . . . don't. Unless, that is, you happen to live in Sandringham Close, Haxby, York and be called T. White.

You do? Great. Well done!

But just in case you're not Mr. White, then here's how the game went.

Top score, as above, was obtained by T. White; player number 3201. His overall total for all six turns of the game stands at a massive 17,331 — well worth a Coleco.

So near, and yet so far, was runner-up player number 1781. This code belongs to Bob Wade from Orpington, Kent. His overall score is 16,009. I'm sure that we can find a suitable consolation prize for Bob. How 'bout it, Tim?

The remainder of the Seventh Empire hall of fame looks like this, running down from positions 3 to 10:

A. Capaldi, Tynemouth, Tyne and Wear — third with 11,678; David Speight, Carleton, Blackpool — fourth with 11,317, fifth was J. Woodhall of Wickford, Essex with 10,992; sixth was P. Tong of Leigh Park, Havant, Hants with 10,386; seventh was W. Mole of Ecclesfield, Sheffield with 9,615; W. Wood from Chorley, Lancs was eighth with 9,013; G. Anderson of Kempston, Bedford was ninth with a score of 8,628 and finally, P. Walker of Woodford Green, Essex was tenth with 8,626 points.

If you do still have any queries, please drop me a line and I'll do my best to answer them. (Write to the Seventh Empire at the address on the Bug Hunter page.)

CROSSWORD SOLUTION

■	1 C	■	■	2 M	■	3 F	4 R	O	5 G	G	E	6 R
7 P	A	C	M	A	N	■	I	■	R	■	■	I
■	S	■	■	T	■	8 I	N	V	A	D	E	S
■	9 S	A	V	E	S	■	G	■	P	■	■	K
■	E	■	■	S	■	10 L	■	■	H	■	11 C	■
12 S	T	A	13 R	■	14 C	O	M	P	I	L	E	R
■	T	■	O	■	■	G	■	■	C	■	N	■
15 N	E	W	B	R	A	I	N	■	16 S	E	T	S
■	S	■	O	■	■	C	■	17 C	■	■	I	■
18 C	■	■	T	■	19 C	■	20 S	H	A	R	P	■
21 L	E	X	I	C	O	N	■	A	■	■	E	■
U	■	■	C	■	D	■	22 A	R	C	A	D	E
23 B	L	A	S	T	E	R	■	T	■	■	E	■

Joe the lion

Once upon a time there were hundreds of software companies selling lots of exciting games to computer gamers all over the country. Then, suddenly, an evil force came along and whisked all the poor little software companies off to an enchanted land where they all got jumbled up and lost their powers to create all that fun and frivolity for the poor micro owners.

Then one day a saviour appeared on the horizon in the shape of *Joe the Lion*! He discovered a mystic book which contained the curse which kept all the software houses in the power of the evil forces.

All he needed to do was unravel the mixed-up names of the software houses from the mysterious story.

But poor old Joe needs your help. Can you find the names of the unfortunate software companies hidden in the following story?

Joe the Lion has £1,000 of software on offer for Oric, Spectrum and BBC owners who manage to crack the riddle.

"EARLY one summer morning Bimbo rabbit and his Australian friend, Bruce, were lounging in the soft, silver sunshine near a bridge in Abersoft, Wales. On one side of them was the ocean, its water glistening like crystal, on the other virgin fields of level grass.

Bimbo was doing his English homework when he was interceptored by Bruce's daydreaming "C&FCDSCP/CRKIJKLCLPSSQEDR&R . . ."

"Just imagine," said Bruce. "Shh," said Bimbo, "I'm trying to learn my alphabet so I can be superior to the rest of the class."

"You'll never beat soft Tek. He says he finds English addictive and he's only seven. It's his ultimate ambition to teach these new automata."

"He told me his fantasy was to lead a Llama quest to the Arctic. He'd probably shiva to death. What an elephant!"

"That reminds me," said Bruce, day dreaming again. "We used to eat elephant when we lived in Australia. Back at my Melbourne house . . . or was it salamander?"

There was a long pause. Bruce dozed while Bimbo watched Richard the shepherd and his dog, Romik, herd the sheep in the distance.

Presently Bimbo stirred: "Have you heard that new record by Durell Durell?" Bruce sighed: 'I'll never know why you new generation fill your heads with such rubbish. I can't stand the pase. When I was your age, all I worried about was my acme."

"Ow!" shouted Bimbo "I've got a bug byte!" Bruce jumped up and turned to his pet sloth, Lorien. "Quick, Silva!" he shouted sarcastically. "Get a doctor!"

"It's no good, Bimbo retorted," The doctor's away this week. Only Mr Micro could help and he lives miles away."

"I know," Bruce beamed. "I'll use my healing powers." Bruce turned his psi on and all was soon well. "Phew!" Bimbo relaxed. "Now we can get on with the game . . ."

Well, can you discover how many software companies are hidden in this mysterious story? All you have to do is write down as many names as you can find on a piece of paper, attach it to the entry form below and send it to *Computer and Video Games*/Joe the Lion contest, Durrant House, 8 Herbal Hil!, London EC1R 5EJ. Please remember to tell us what micro you own and fill in how many names you have discovered.

Now for the prizes! The first 60 Spectrum owners with the correct number of names will receive a copy of Joe the Lion's latest game for their machine, called Bimbo. This is an exciting maze chase game. The first 60 BBC owners with the correct answer will get a copy of Challenger, a cross between Scramble and Defender. For Oric owners who solve the riddle, there are 60 copies of Joe the Lion's Loki game, a 3D arcade-style challenge.

Remember, the first 60 out of the *C&VG* memory bin on the closing date of the contest, which is April 16th by the way, will win a prize — so get cracking!

JOE THE LION £1,000 SOFTWARE CONTEST

Name . . . .

Address . . . .

. . . .

Micro you own: Spectrum/BBC/Oric . . . .

Number of software company names hidden in our story . . . .
(Remember to write out the names you've found on a separate sheet of paper and attach it to this coupon.)



* Bonkers and Breakaway are available from Prism, Woolworths, Rumbelows, John Lewis and Debenhams.
* Dealer inquiries to Prism (01)253 2277
* Overseas inquiries welcomed

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Credit Card Holders (Access/Barclaycard only) can purchase by telephone. Please give card no., name, address and items required, and your order will be despatched the same day

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Simply write your requirements in the coupon provided, enclose your cheque/P.O. or use your Access or Barclaycard. Please make cheque payable to; PROCOM SOFTWARE and post to address below. Allow 7 days for delivery.

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Please send me the following items:

☐ Bonkers (£5.50)
☐ Grid Master (£4.95)
☐ Breakway (£5.50 each)
☐ List of new games!

(Please tick items)

I enclose my cheque/P.O. for £ ______

I prefer to pay with my ACCESS/BARCLAYCARD
(Delete whichever not applicable)

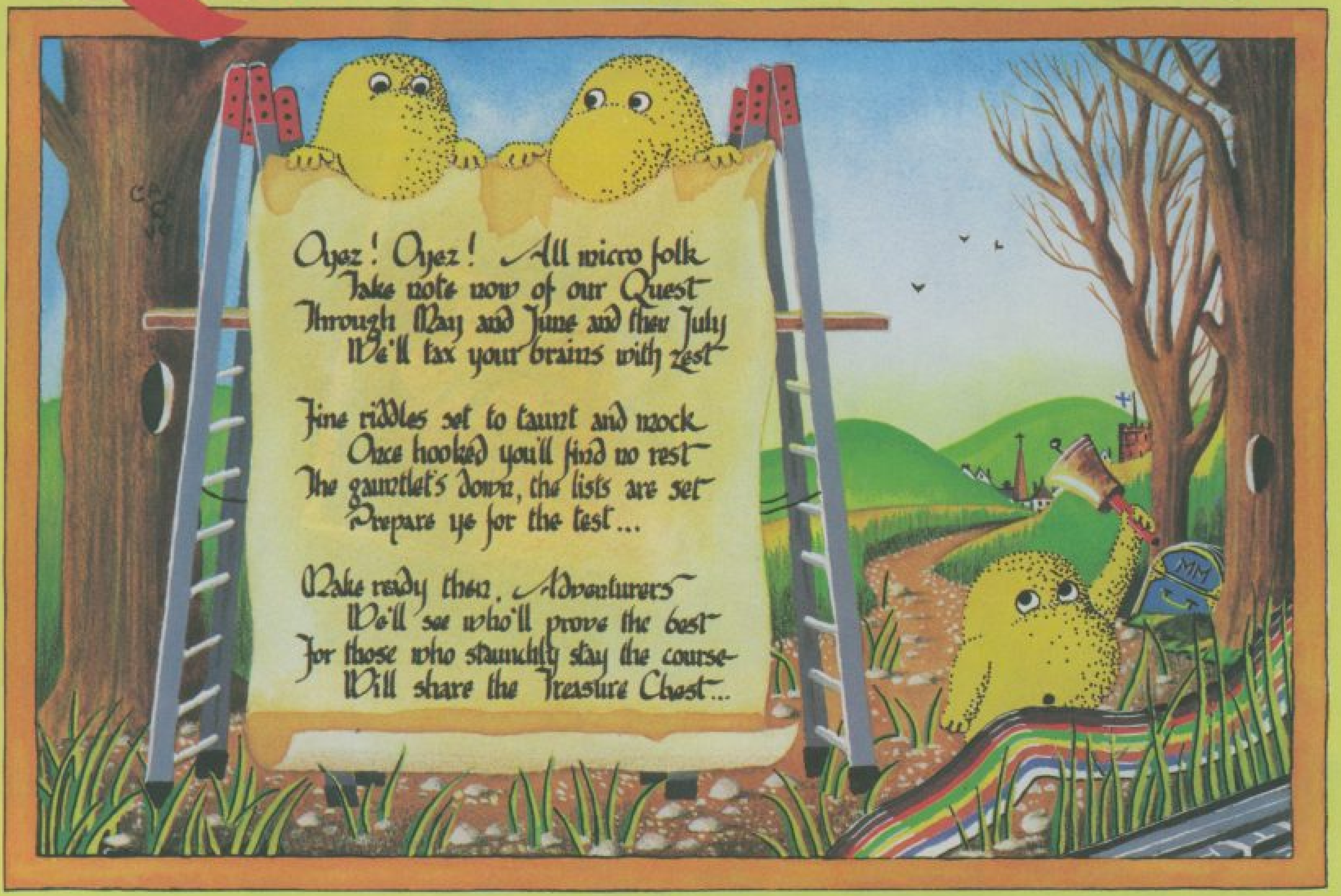
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CVG

Quo Vadis?



WHO IS NUMBER ONE?

How many times have you seen the phrases "smash hit" or "number one best selling game" in the advertising blurb for various games. If the claims made by the manufacturers were true then just about every game ever launched has been a hit at some stage in its career.

It's not that the software houses are deliberately setting out to be dishonest. It's just that there exist about a dozen charts published by various magazines, chain stores, and software distributors which all have one disturbing thing in common — they all regularly show wildly conflicting results. Not just different placings of games — but sometimes there are totally different titles in the different top fives.

Perhaps the worst case of spurious charts was in a major weekly music paper which two months ago had the game Jet Set Willy in at the number twelve spot several weeks before the programmer had even finished writing it!

The reason that these charts have become an industry joke is simple.

None of the charts currently available are compiled by a top market research company. Until now that is. From our next issue we will be presenting a Top Thirty compiled by NOP Market Research which will be the most accurate software chart in the country.

A mark of the confidence felt in *C&VG*'s Top Thirty is the fact that the Daily Mirror — co-sponsor of the chart — is to make it the heart of a brand new computer column.

This first properly compiled computer games top thirty marks the coming of age of the games business and is further evidence that our hobby is becoming even more like the record industry.

If you watched BBC's Saturday Superstore on March 3rd, you will have already seen a Top Ten taster for these charts — and read about our brand new top thirty in the Daily Mirror. So you see a lot of people are taking the *C&VG*/Daily Mirror software charts very seriously!

The first Top Thirty proper will be printed in the Daily Mirror on March 10th — and then the chart will appear in the Daily Mirror every fortnight. *C&VG* will also print the chart each month.

You should be able to find a big poster-sized chart in your local computer shop too.

So the next time one of your friends mentions a game that is doing well in the charts ask him which chart?

If it's not the *C&VG* Daily Mirror Top Thirty, it doesn't count.

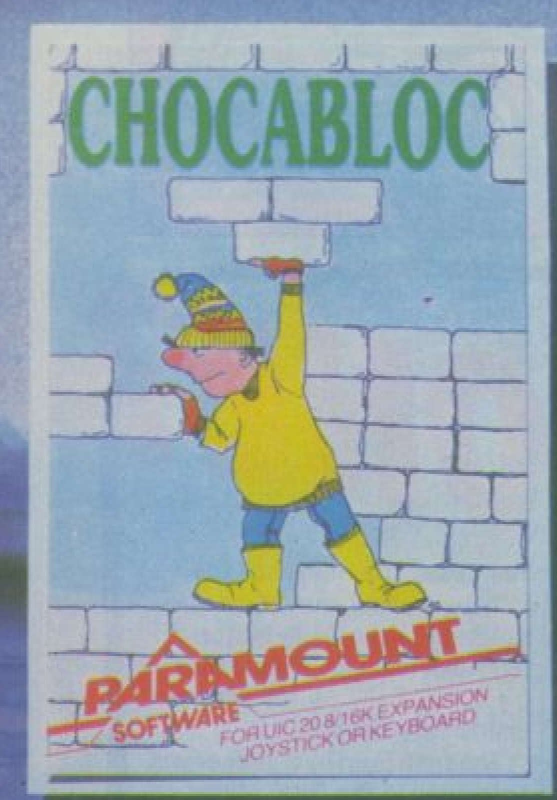
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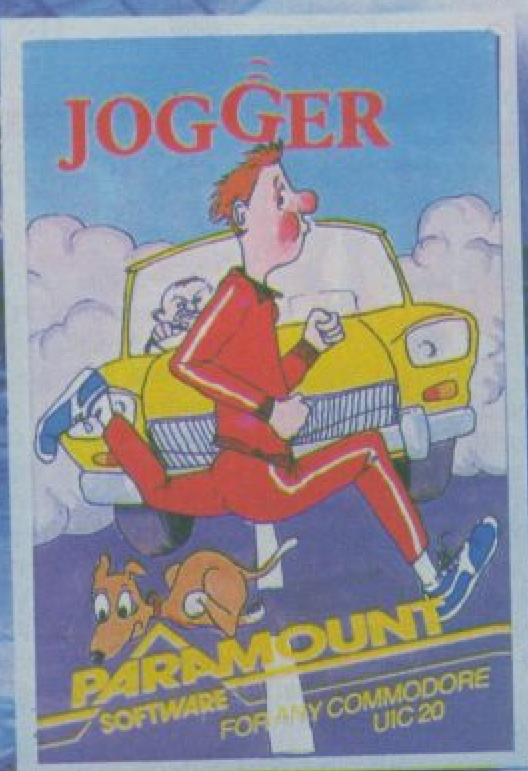
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NEW!

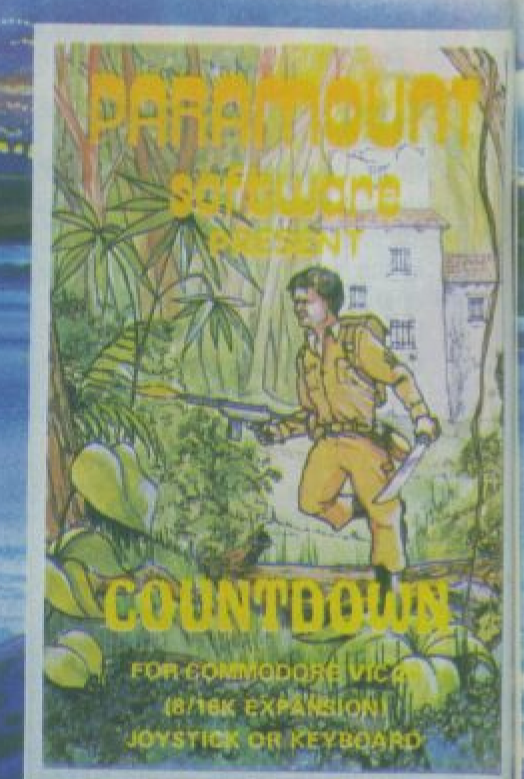
CHOCABLOC – [illegible] *Machine Code action game* [illegible] *sound and graphics.*
VIC 20 [illegible]

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JOGGER – [illegible] *If you have trotted with the rest, now run with the best. Machine Code action. Superlative sound. Creative colour.*
VIC 20 [illegible]

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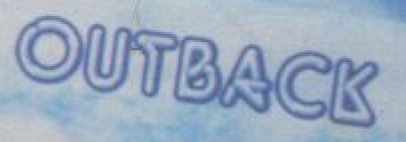
COUNTDOWN – *Time is important. Accuracy essential. Courage mandatory. But above all, Nerve is the prime attribute needed for your mission as an agent in the crack S.M.U.*
A Superb Arcade/Graphical Adventure.
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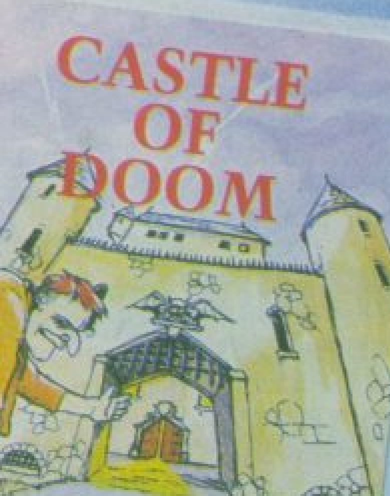


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Paramount titles are available at larger branches of Boots, major department stores and computer stores nationwide.

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The Olympian Flame is burning! The last bleep from the studio clock marked your time! — You are off — 10 tasks to test your skills! A superb quality programme from Paramount! DRAGON 32 Keyboard

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G·A·M·E·S N·E·W·S

SORRY END TO SYNAPSE SQUABBLE

SYNAPSE

A transatlantic legal wrangle may rob British Commodore 64 owners of the chance to buy some of the best games software the Americans have to offer.

Synapse software — as many Atari owners will testify — have one of the best range of games of any software house in the world. Recently Centresoft, a British company, have begun to import Synapse's versions of arcade games like Zaxxon, Shamus and Pooyan for the CBM 64 and Atari computers. Obviously these games are in great demand but now, because of a legal row over trade names, the company's entire stock of software has been shipped back to the States.

The trouble began over six months ago when an English company called Synapse U.K. objected to the American firm using the name in this country. Synapse U.K., a small software house producing custom-designed business programs, demanded that the name be removed from all the games packaging and advertising.

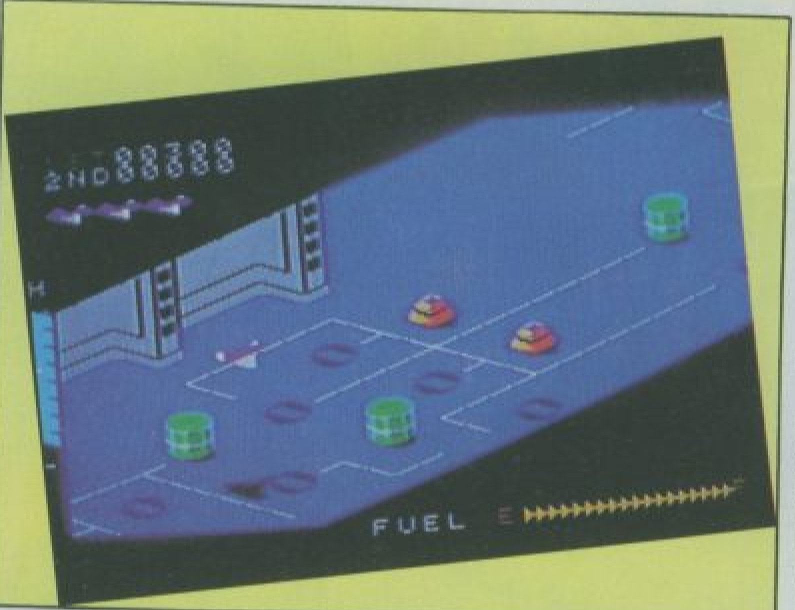
Centresoft covered the offending words on the packaging with sticky labels and thought the matter was settled. But the company continued to accuse Synapse U.S. of impersonation and issued a writ forcing them to remove all mention of Synapse from the boxes, instruction booklets and the programs themselves. The costs of reprinting and changes to the programs were so large that the British company were offered a substantial sum of money to settle the dispute, but sadly they would not budge from their position.

So Synapse have reluctantly removed their games from the British market for the foreseeable future at least.

Jeff Brown of Centresoft commented "It's a ridiculous situation that should never have happened. Commodore 64 owners will now miss the chance to buy what is undoubtedly the cream of the American software industry."

The story also has an ironic twist. Encounter, one of the games affected by the ban, was originally written in Birmingham — the home of Centresoft — and was considered so good that Synapse U.S. bought the world rights, but now cannot sell it in Britain.

Zaxxon, Quasimodo, Blue Max, Rainbow Walk and Dimension X are only a handful of the games that have been withdrawn. Let's hope that the situation can be resolved quickly.



FLY WITH THE 617 SQUADRON

DAMBUSTER

World War II history is faithfully re-enacted in a new war game named after the world famous Dambusters squadron.

Based on the second world war bombing mission by 617 Squadron, the game faithfully reproduces the beam-on-the water technique and the bouncing bomb designed by Barnes Wallace, which enabled the RAF to successfully bomb the Möhnesee Dam in the Rühr valley during 1943.

The player has to pilot his plane close to the ground to avoid enemy fighters and heavy anti-aircraft fire and then ensure he is at the correct altitude and distance from the dam before releasing his bomb. Each successful mission moves the game

MAGIC MELTING MOMENTS

THE SNOWMAN



Picture by Raymond Biggs from the Snowman. Published by Hamish Hamilton Ltd.

The wildly successful book and film — The Snowman — by Raymond Briggs has been turned into a game for the 48k Spectrum.

Taking its theme from the book, the game is non-violent and is the story of a child's friendship with an imaginary snowman. The beauty of the book is not spoilt in the game and the worst fate that befalls the little boy is that he slips peacefully back to bed and falls asleep.

The game has four stages. During the first one he has to collect pieces of snow and build the 'magic' snowman, but each time he walks near a flame his snowball will melt. In the second level he must add the finishing touches like a scarf, nose, eyes and a big smile, of course, to his ice man.

The next two levels are devoted to the little boy's efforts to stop the snowman melting. He does this by dropping ice cubes next to it to keep it cold. The little boy must also find the snowman some toys to play with. And you must help the child rush around the icy garden looking for a skateboard, cricket bat and ball and some balloons to amuse his frozen friend.

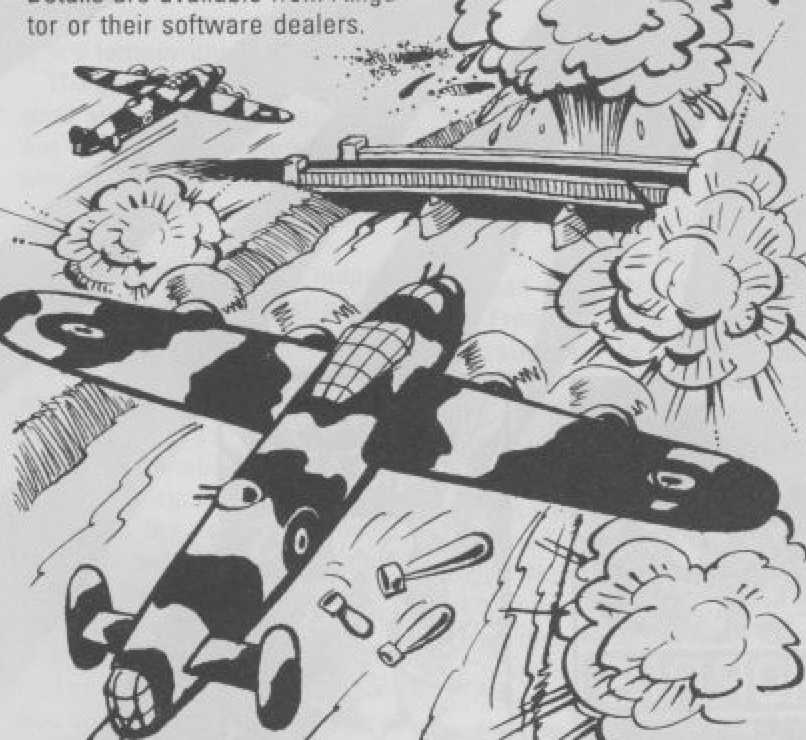
You'll have to keep an alarm clock handy or the sleep monsters will lull you to sleep.

The Snowman is available from Quicksilva for the 48k Spectrum and costs £6.95.

G·A·M·E·S N·E·W·S

onto the next level of difficulty.

Alligator are currently running a competition to find the country's best Dambuster player, with a trip to the Ruhr valley as the prize. This must rate as one of the best prizes offered in a computer game competition, with the exception of the Sun Dial of Pi offered by Automata to the person who finds all the clues in Pi-Mania, their smash hit game which has reached cult status. Details are available from Alligator or their software dealers.



THE SUPER HEROES ARE COMING!

THE HULK

Cartoon superheroes, The Incredible Hulk, Spiderman and Captain America are preparing to make an assault on British games players this summer.

Scott Adams, the high priest of American adventure games, is at this moment producing graphical adventure games based around the characters from the highly successful Marvel comics.

Each adventure will be sold with a specially printed comic. The story line is left hanging at a certain point, and the adventure carries on the rest of story.

The first game, The Hulk, is to be released simultaneously in America and here at home in Britain on the 1st May by Birmingham-based Adventure International. Spiderman should follow a month later.

Unlike most of Scott Adams' other adventures, The Hulk will be available for a wide range of micros — including the Commodore 64, Spectrum, BBC, Oric and Atari computers for an asking price of between £8 and £12.

Watch out for an exclusive review of The Hulk in *C&VG* in the coming months.

VIOLENT VISIONS OF ARMAGEDDON

VISIONS

The Visions Software Factory has really got their production line working overtime, churning out games at an incredible rate. Another six games have been added to their range of Spectrum and Commodore 64 titles.

Armageddon 'a game of gratuitous violence' is a jolly little game which lets you and a friend or two blow the world to pieces as many times as you like before breakfast. Global genocide is now possible on a CBM 64 plus breaks for coffee, of course!

1994 is a multi-level game for the 48k Spectrum. You must guide Smithy (I suppose they mean Winston Smith from 1984) through eight levels inhabited by droids, robot eagles and plama bolts to find the key that unlocks the gate to the next screen. WILLY get to the top or fall to the bottom of the mine?... oops different game — isn't it?

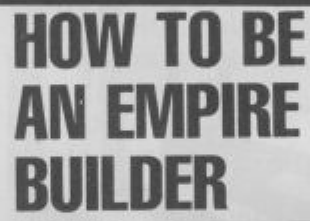
There aren't any speed limits on the moon so why not go for a spin across the lunar landscape with a little help from Moon Buggy. It's not all smiles though. The local aliens have got a little narked with all the noise you've been making and are trying to shoot your brains out. Sounds like a rough neighbourhood.

Moon Buggy, 1994 and Articus run on the 48k Spectrum. Two other releases — Banana Drama and Gusher — run on the '64.

Banana Drama is a kingdom-type game where you play the part of a dictator of a small banana republic.

Taxes have to be collected, crops sown, exports sold and the population fed, otherwise you could be on the end of a very nasty revolution.

All the games are available from the Visions' Software Factory or from most High Street retailers.



HOW TO BE AN EMPIRE BUILDER

CLIMBER

The wheels of commerce grind remorselessly on. As an ambitious and less than scrupulous office boy, you dream of climbing to the top of the business world and securing a seat on the board of directors and a key to the executive bathroom!

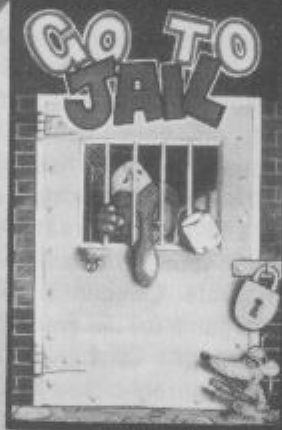
The world of high powered business is full of hidden dangers. Taxmen lurk in every lift ready to extract their pound of flesh and you'll have to fend off the Revenue's henchmen with your brolly or your fall from commercial success will be swift.

Your life of wheeler dealing and dirty tricks soon takes its toll on a body more used to five course lunches than a five hour workout. A close watch must be kept on your soaring blood pressure. A whole host of medical problems including coronaries and ulcers threaten to cut short your promising career. Corporate Climber is definitely not a game for the weak hearted.

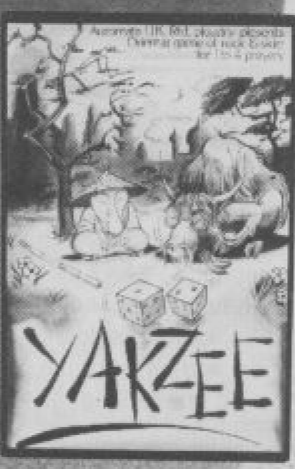
Corporate Climber is available from Morely-based Dynabyte Software for the BBC and Acorn Electron costing £7.95.



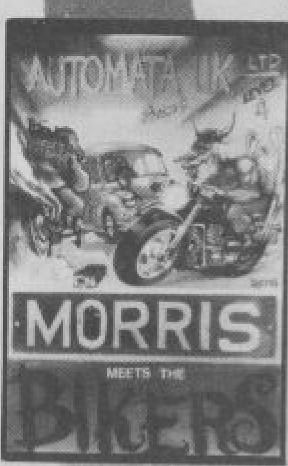
Illustrations: Dorian Cross



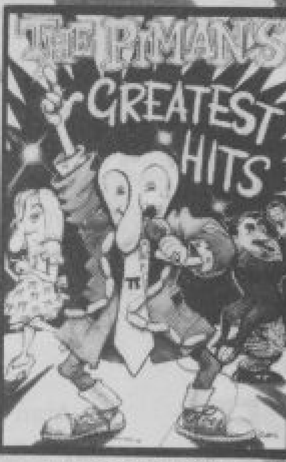
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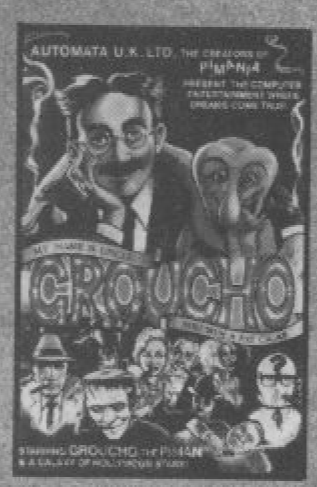
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G·A·M·E·S N·E·W·S

TERRIFYING TIME FOR TADPOLES!

SAVAGE POND

Savage Pond is a world more ferocious and threatening than any you will have encountered before. The reality of fighting for life against nature's awesome forces will be more real than any space fantasy can hope to be.

The game is set in a seemingly quiet and peaceful village pond. But the tranquil waters hide a world ruled by death and destruction — governed by the laws of nature.

You play the part of a tadpole trying to survive against all the odds. You must guide the tadpole around the pond helping him to eat the amoebas and avoid the stinging hydras. Many other creatures inhabit the pond, including dragonflies who drop eggs into the pond which must be eaten before they hatch out.

Other hazards such as industrial pollution, mutant bumble bees and water beetles threaten to end the young frog's life. Can you survive and ensure the production of future generations or will the demise of the species be your fault?

Savage Pond is produced by Liverpool-based Starcade Software for the Atari and Commodore 64 computers and costs £8.95.

FEARLESS ENOUGH TO FOLLOW FRED?

FRED

The ghost of Tutenkahm is ready to avenge anyone who dares to enter the tombs of the ancient Pharaohs. One man — Fred the archaeologist — is preparing to set foot into a pyramid that hasn't seen a living soul for 2,000 years. Are you courageous enough to join him?

During your travels through the labyrinth of passages, hall rats, vampires and the obligatory mummies, acid rain, caused by old and decomposing Egyptian mixtures falling from the ceilings, will have to be avoided or Fred could end up as a nasty fizzing sludge.

To protect himself while he searches for the dead Pharaoh's treasure, Fred carries a revolver and six bullets — further ammunition can be found along the route. Fred starts each expedition with 15 units of energy and every time he is hit by a monster he loses energy. Two extra units are gained each time the magic elixir of Nefertiti is drunk or the exit is reached.

Fred runs on a 48k Spectrum and is available from Quicksilva and costs £6.95.

STOP THE SOFTWARE PIRACY!

PIRACY

The Computer Retailers Association has launched a blistering attack upon the media's handling of the software piracy issue. The BBC is singled out for particularly harsh criticism over a report on Newsnight that appeared to imply that the British copyright laws were not applicable to computer software.

The C.R.A. would like to point out that the impression the programme gave was in fact erroneous — and software houses are actively involved in prosecuting ALL infringements of copyright.

Over six cases have already been brought to the courts and each one has been fought successfully — the courts agreeing that the Copyright Act covers computer programs.

C&VG supports any move which will halt software piracy, but the methods used to combat copying in the video industry will not work for the games manufacturers.

Children, not organised criminals, are responsible for ninety percent of the piracy. Strong arm tactics are not the solution to playground piracy.

Lower prices and a more original approach to games software is what is needed, not legal muscle.



JOIN ALICE IN WONDERLAND

MEMOTECH

The Memotech MIX 512 seems to have a very bright future in front of it. The new computer was only launched late last year but has already gained a large software backing and the approval of many of the top game manufacturers.

The company leading the race to produce the hottest games for the Memotech machines is Continental Software.

Continental have released three games so far: Blobbo, a maze game, Minefield and Kilopede — a version of the arcade game Centipede. They have another ten titles under development which they hope to have ready in the very near future.

The most interesting of the forthcoming games is a pair of games based on Lewis Caroll's novels Alice in Wonderland and Alice Through the Looking Glass.

The two games let you take part in the fantasy world Caroll created in his books, and are presented in full hi-res graphics to help bring home the full force of his magnificent flight of imagination.

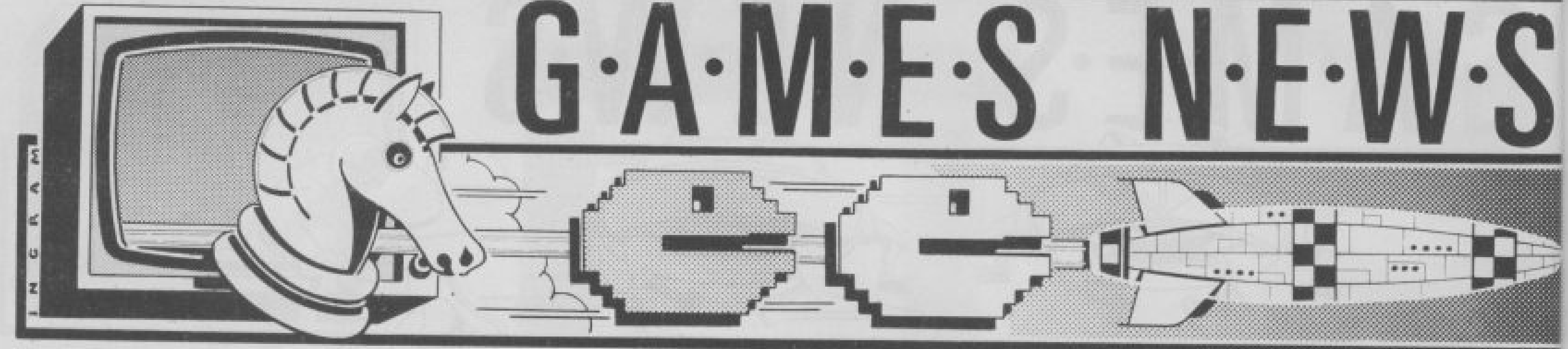
Over 30,000 Memotechs have been ordered and well over 20 software companies are designing games for it. So anyone who's considering buying a games playing computer should put the MTX 512 high on their list.

The three arcade games cost £6.95 each and the two adventures £9.95, and are available from Continental Software, based in Witney, Oxfordshire.



Illustration: Terry Rogers

G·A·M·E·S N·E·W·S



MYSTICAL PYRAMID OF PI

PI-BALLED

Imagine a wind-swept and arid desert, mystical pyramids and a little pink man with a big snout and you have the makings of a new episode in the Pi-Man saga.

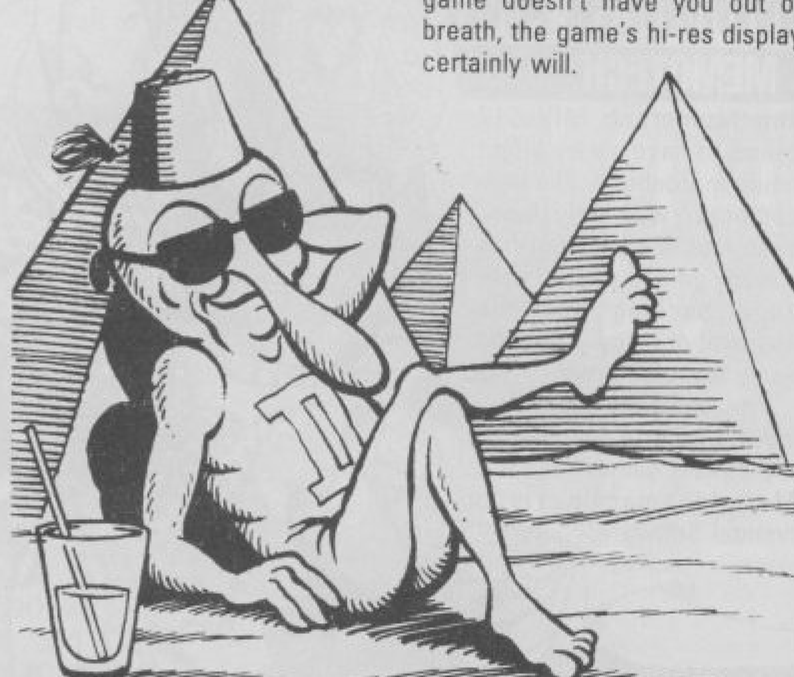
Burt — the game's central character — has walked into the desert to contemplate the meaning of life, the Universe and everything and anyway his mother's been nagging him a lot lately.

After a few days of stumbling through the sand dunes, Burt discovers the legendary Mystical Pyramid of Pi. Perched on top of the ancient building, Burt makes ready to begin his meditation but he didn't count on the Pi-Man and his pals, the Ball brothers, being around.

Poor Burt must jump around the pyramid changing the colour of the mystic squares while avoiding the advances of the Ball brothers, Sid Snake and the pixel princes Col and Jas. Burt can jump onto the spinning discs hovering above the pyramid and lure Sid over the edge. He'll have to watch out for the cunning Pi-Men who lie in wait on the squares.

Pi-Balled has over 66 different levels, joystick control and a free record on the cassette entitled RastafarPi.

Pi-Balled is available from Automata U.K. for the 48k Spectrum and costs £5.50.



Illustrations: Terry Rogers

STRICTLY FOR SPORTS ADDICTS!

OLYMPIMANIA

Pimania addicts can now keep fit with PiMan and his new sports style game OlymPimania.

With the Olympics not far off, the PiMan has decided to get in shape for the big event with an intensive fitness course. You can join him in the Pi-jump, fly down the Matterhorn in Alp-pi, thrash Daley Thompson in the Pi-tathlon and probably drown in Butter-pi from exhaustion.

The PiMan also saddles up for a ride in the most dangerous Olympic sport of all Step-pi or equestrian horse racing to me and you.

The boys from Automata assure us that the graphics are 'absolutely brilliant' and if the game doesn't have you out of breath, the game's hi-res display certainly will.

And after a tough day's competition, why not unwind to the rock song on the flip side of the tape entitled The PiLand National Anthem?

OlymPimania will be available from Portsmouth-based Automata U.K. for the 48k Spectrum in early March and costs £6.00.

I was a little disappointed that there wasn't a book of warm-up exercises with the music — perhaps we could have had Pi-robics?



NOT MUCH LOVE FOR NORMAN

THE TEBBIT

Remember the adventure game called Denis Through the Drinking Glass which chronicles the mishaps and disasters that befall Denis Thatcher — the husband of the Prime Minister — as he endeavours to escape from the corridors of power to the comfort of the Grave Diggers Arms and a well deserved gin and tonic?

The sequel of Denis through the Drinking Glass is almost upon us. It stars one of the country's most feared and hated men. A figure that stirs terror in the hearts of all decent citizens ... the Tebbit has arrived!

The Prime Minister's right hand man rules the chambers of Parliament with an iron hand. Have you the courage to enter a world of politics full of creatures like the Tebbit?

Denis Through the Drinking Glass and The Tebbit run on the 48k Spectrum and are available from Applications Software and cost £5.50. each.

GIRLS CAN PLAY GAMES TOO!

GAMES FOR GIRLS

What next? Horace goes flower arranging or maybe the attack of the mutant housewife? No, we now have ladylike games for young ladies!

Games for Girls is the title of a new and rather ridiculous range of games aimed at encouraging girls to take a greater interest in computers. The makers state the software will test young ladies' 'intelligence and application of logic'. Sounds like fun . . . eh girls?

All the nasty monster killing and alien bashing that's so popular with their brothers has been removed. Instead they will be served a diet of show-jumping, mental arithmetic and diamonds — well they're a girl's best friend, aren't they?

Perhaps Case Computer Simulations, the manufacturers, should realise that if they really want girls to become more involved in the world of computers then producing a game about show-jumping is not the way to go about it. Besides, aren't boys allowed to be interested in show-jumping, mental arithmetic or diamonds, for that matter?

Treating young children differently because of their sex can only widen the 'gap' between them and reinforce the myth that computers are a masculine concern.

The games are available from London-based CCS for the ZX Spectrum costing £6.00 and there's more to follow!

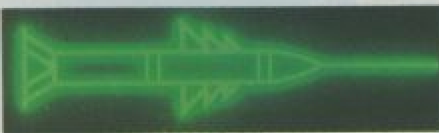
THE LUNA Z5 FIGHTER



In your Z5 Luna Hover Fighter you must penetrate the 3 successive Seiddab defensive zones and destroy their command base.

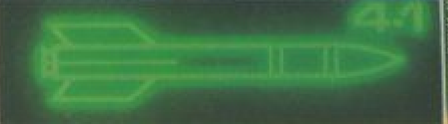
The state of your fighter and its armaments along with status reports of the Seiddab defences is given below.

Good luck! May the power be with you.



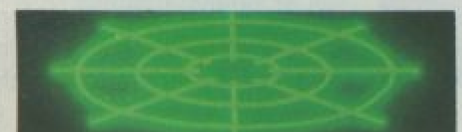
·LASERS·

Short range weapon system. Iridium powered. Powered up and operational.



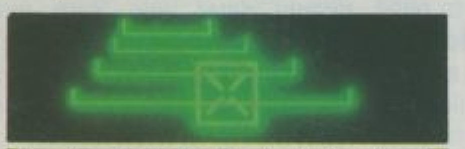
·MISSILES·

Long range weapon system. Radar homing duodec warhead. Armed and ready to fire.



·RADAR·

Long range, over the horizon sensors. Tuned to the plasma output of Seiddab hover fighters.



·NAVIGATION·

Locked on to the Seiddab command base. Head up path display.



·SHIELDS·

Di-lithium powered. Combat power level. Status all green.

·GAUGES·

Long range propeluene tanks. Status full. Combat shielded. Hull temperature status low.



£5.95 £7.95 £5.95

This is the latest and most difficult mission in the long running struggle against Seiddab aliens – are you prepared to accept this mission?

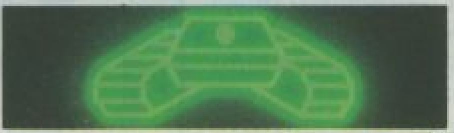
Available for 48K Spectrum from all leading software dealers including Boots, John Menzies, Spectrum Computer Centres, etc.

Available for other popular home micros soon.



Hewson Consultants
56B Milton Trading Estate,
Milton, Abingdon, Oxon OX14 4RX.

KNOW YOUR ENEMY



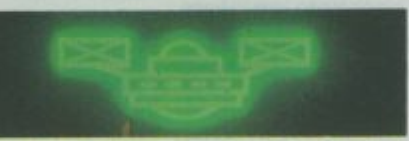
·DAB·TANKS·

Robotically controlled. Ytsan missiles – armed. Susceptible to laser strikes.



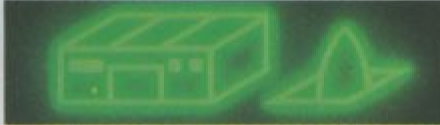
·SEID·HOVER·FIGHTERS·

High power, low manoeuvrability strike craft Plodium missiles – armed. Susceptible to missile or laser strikes.



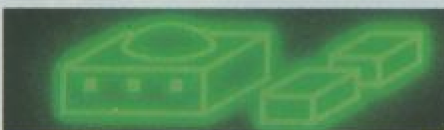
AERIAL·MINES

Contain proximity fuses, explodes on detecting hoverfighter. Susceptible to laser strike.



MISSILE·SILO

Final line of defence – self activating. Hewstron Warhead. Susceptible to laser strike.



COMMAND·BASE

Your objective – heavily defended requires many strikes to destroy – you must not fail.



ARCADE

WE DISCOVER WHAT'S NEW IN BLACKPOOL

We're not one of those magazines who thinks everything happens in London you know! A few weeks ago we packed our bags and braved the frozen wastes to visit Blackpool where the big arcade industry show takes place each year. Traditionally, the Blackpool show features some of the latest arcade games and some brand new ones too. The undoubted hit of this year's show was Atari's Firefox — the long awaited laservideo adaptation of the Clint Eastwood movie. But there were other great new games around. Read on to find out more . . .

Well, the Blackpool show was well stocked with a good mixture of new and old games.

Sprinting into the arcades just in time for the Olympics is Konami's *Track and Field*. A great game for all you armchair sports enthusiasts with six events from the decathlon to compete in. One to four players can play and it's guaranteed to leave you breathless!

One game that certainly catches the eye is *Star Rider* from Williams. It's one of the new breed of laser games with some striking graphics and sound effects.

It is the ultimate in motorbike racing — the cabinet is shaped like a racing bike and you've got to sit astride the bike's seat to play. Definitely not a game for anyone wearing a skirt!

You have to race around a track on a sci-fi, turbo-charged bike — just watch out for other mad bikers, they drive like maniacs and will bump you off the track, slow you down and cause fatal crashes if your reflexes are anything like mine! Definitely a game for trainee Hell's Angels.

Roller Aces and *Vastar*, both from Streets Manufacturing were two games new to the industry. In the excitement and graphics stakes I'd rate *Roller Aces* over *Vastar*. In Roller Aces you play a heavily padded skater who has to negotiate an obstacle-filled track while being pursued by two heavies who'll bump, punch and trip you.

The only way out is to either out-skate them, or — if you happen to forget the Queensberry Rules — throw a quick right and left hook and catch them off balance.

On looking at *Vastar*, I was reminded of the computer game — *Jet-Pac*.



An unusual game with a 3D effect, it's basically a shoot-'em-up with a difference. You control the Jetman, hovering in mid-air with the help of a power pack, who has to fight off waves of nasties coming from the right of the screen.

A game to thrill American Football fans, is *10 Yard Fight* from the Irem Corporation. It is a brilliant copy of America's national game which has gained almost cult status in the UK over the past six months.

The ever popular theme of motor racing games was fully represented with a wide selection of games available.

Sega's *Up 'n' Down* is a lighthearted driving game which puts you in charge of a VW 'Beetle' — hardly a racing car! The track seems to be suspended in mid-air and, as the title suggests, goes up 'n' down a mountainous roadway. The car also has the amazing ability to jump other cars and to leap the gaps where parts of the track have fallen into the unknown.

Laser Grand Prix from Taito is at the other end of the scale — for those do or die drivers who for some reason haven't taken their tests or wouldn't be allowed on the roads because of their dangerous driving.

It's a laser video game which features actual film of the Mount Fuji race circuit in Japan with your car composed of computer generated graphcis.

Atari's *TX-1* is possibly the most sophisticated racing simulation game on the market to date. It incorporates three video screens and the driver sits in a cockpit-style booth. The centre screen shows the race track whilst the left and right screens act as wing mirrors. It's a thrilling game!

Spy Hunter is one of Bally/Midway's new releases and is vaguely reminiscent of the movie, *The Italian Job*. The inevitable car chase ensues with you, the good guy, trying to outrun a whole bunch of baddies.

You're the driver of a super-duper, 007-style car which is equipped with machine guns and can lay smoke screens and oil slicks. These are lethal to anyone following you — and give you a better chance of getting away!

At the beginning of each new section you've got to drive into the back of a moving weapons van to be fitted with a new weapons system. Sounds easy? Just wait till you try driving into the back of a van that is moving at a steady 50mph with a bunch of heavies on your tail.

Bally's *Discs of Tron*, a spin-off from the movie Tron, was also heavily featured at the show and is based on a scene in the Walt Disney film, Tron.

Standing on disc-shaped platforms, you throw lethal discs at your opponent and knock him off his platform before he gets you. You begin the game with just one platform to stand on — but in following screens the number of platforms increases and Tron



has to jump from platform to platform to survive. A great new game!

In *The Tin Star* from Taito, tables and chairs crash to the floor, bottles spill their valuable contents into the dust and the air is thick with the blue haze of cordite.

You are the sheriff of a small outpost in the Wild West and your once clean and god-fearing town has been overrun by the meanest, nastiest crowd of drunken no-gooders you've ever seen.

It's no easy job getting them out of the saloon — but don't let the fact that it's one against twenty deter you. With guns blazing, you march bravely into the saloon and the action begins.

Bandits at 3.00 — get ready lads! *M.A.C.H.3* from Mylstar is a laser video shoot-'em-up and one of the first laser games to

Illustration: John Higgins

use actual film for the background throughout the whole game.

You are the pilot of an F-15 fighter jet and your mission is to prevent enemy forces from gaining air supremacy and to bomb important military installations.

A synthesised voice offers advice on which installations to blow up. Dog-fights in the skies follow. You'll fly over some amazing scenery — all the film was shot by a stunt pilot in the States and includes deserts, mountains, secret shipyards and dams. Possibly the forerunner of Atari's Firefox, *M.A.C.H.3* is certainly a force to be reckoned with in its own right.

Exidy's *Crossbow* is an arcade/adventure laser game where you guide a group of travellers over hazardous landscapes to the castle at the end of your quest. A crossbow-style weapon is placed outside on the cabinet and you use this to shoot the many undesirable characters who lurk in unexpected places and pose a threat to the travellers.

"May the Force be with you, Luke", whispers the voice of Obi-Wan (Ben) Kenobi as Luke, in his X-Wing fighter, prepares to destroy the Death Star and obliterate the evil Darth Vader.

Set in the depths of space with linear graphics, you'll have a hard time just avoiding the Dark Side's Tie-Fighters, let alone dropping a bomb in the only vulnerable point of the Death Star — the exhaust chute. Star Wars is still a firm favourite in the arcades with its multiple level choice of game action, great graphics and even better sounds — including the whistles and bleeps from R2D2! Another very playable action game.

NOW PLAY THE MOVIE!

FIREFOX

Well, it's finally here. Firefox, the game everyone had heard about and no-one had seen, made its first appearance in the UK at Blackpool last month.

Atari has successfully managed to keep Firefox under wraps over the last year and this fact alone has generated a huge amount of interest from their curious competitors, distributors and traders. But now the suspense is over.

Atari claim that Philips designed the laser player exclusively around Firefox. The disc is scanned at such a speed that there is a smooth transition from scene to scene, thus eliminating the irritating 'dead' area round in many of its predecessors which is certainly an improvement.

It was worth waiting for. In a cabin styled on a jet cockpit, you'll be able to plug your personal stereo headphones into the special jacks fitted and immerse yourself in the game, where the exciting and realistic sound effects increase the overall impression of a hair-raising flight out of Russia.

The trailer to Firefox is taken straight out of the film of the same name which starred Clint Eastwood. This and a simulated voice-over explains your mission. "The development of the Firefox plane has taken the Soviet Union only three years instead of the expected ten years. To protect vital national security interests and to learn what makes it so advanced, the United States must acquire the plane before the Soviet Union begins mass production. You've got to steal it." Whilst listening to this explanatory dialogue, some great action sequences from the movie are shown on screen.



Firefox starts off with the sound of turbo jet engines increasing to take-off speed. Within moments you're airborne and flying over the mountainous terrain of the Urals in your stolen MIG-31.

The background scenery flashing beneath you is actual film footage from the film whilst your MIG is composed from computer-generated graphics superimposed on real film.

Furthermore, Clint's voice is heard throughout the game, offering advice, instructions and words of warning to you, the pilot.

Other fighter jets, including prototypes of the stolen MIG-31 will be scrambled with instructions to destroy you. Beware the tracking systems and infra-red radars — they'll quickly pinpoint your position if not eliminated.

Fuel — or lack of it — is a prime factor in getting out of Russia alive. There are various refuelling points en route in the icy wastes of the arctic icepack and it's in these areas that Russian surveillance will be concentrated.

An action-packed game with superb sound and graphics, Firefox is the first laser video using footage from a commercial feature film. It's fast and addictive and you can expect to see it in the arcades within the next couple of months.

We saw a prototype version at the Blackpool show but Atari tell us that now some extra screens have been added to make the game even more spectacular.

The machine's in-built brain can now recognise just how good you are getting at the game — depending on the number of kills you make.

Screens featuring fog, night flying and even an "infra-red" mode have also been added plus a glimpse inside the cockpit!

So far this new improved version is only out and about in the States — but watch out for Firefox in your local arcade.



Several newish pinballs were on show at the Blackpool arcade show from the major manufacturers. Gottlieb, or Mylstar as they now like to be known, had two newies at the show called Ready, Aim, Fire! and Rack em' Up!

Read, Aim, Fire! is a pretty basic pin with a fairground theme. It's based on one of those target shooting booths you find at any fair. It has five pot bumpers, three at the top, two at the lower end of the playfield, and several skill targets and up to four players can compete. It's not a bad game to play and pinball regulars should be able to reach high scores without too much trouble. The backflash and playfield artwork is pretty basic and old fashioned, however, and might put a few people off.

Gottlieb's other offering, Rack 'em Up followed that age-old pinball tradition of basing the game on a Pool theme. Once again it's a standard game with a pretty standard playfield layout. Gottlieb/Mylstar don't seem to want to be very adventurous! However, Rack 'em Up is a playable pin that is worth forking out a few 10 pences to try out.

Real star of the show was Williams' Firepower II. This is a rejigged version of the original Firepower machine with a split level playfield and lane change.

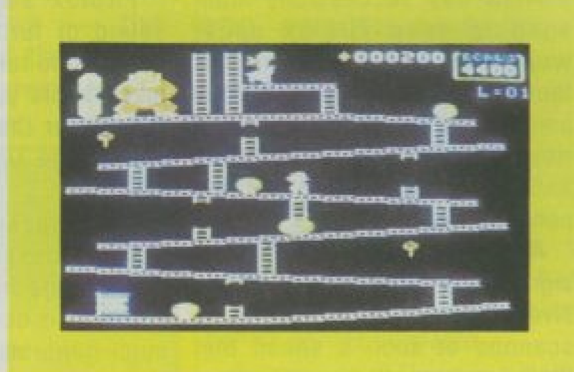
Other exciting features on Firepower II include the "bonus hold over". If the player manages to light up any of the three-banks of target lights, he then has between 7-10 seconds to activate the "bonus hold-over" by "going into orbit"! When the ball drains, you not only score the bonus but a chance for more points is carried over onto the next ball.

Completing a three-bank and going into orbit twice with the same ball scores 25,000 — a nice trick to impress the local pinball wizards!

Software

R·E·V·I·E·W·S

DOOMSDAY CASTLE



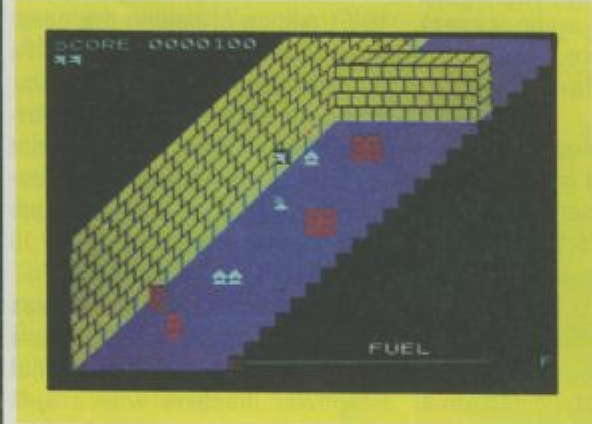
DONKEY KONG



ROBOTRON



BOOG-A-BOO



ZAXXON



MANIC MINER



FANFARE FOR THE FALLEN FLEA

BOOG-A-BOO

Every now and then a game comes along that's so revolutionary, so full of new ideas that you know it will be a winner the minute you set eyes on it. Boog a Boo is one such game.

Set in a world of weird and wonderful vegetation, you play the part of Boog a Boo the flea — who's fallen down into a deep chasm and is trying to escape. You must make the flea jump onto the numerous ledges in the cavern in an effort to escape to the surface.

You control Boogie by tapping the joystick making him hop, skip or jump according to the strength. The graphics are breath-taking — easily the best to come from a British software company.

The game requires timing and co-ordination rather than a fast firing action and is addictive and frustrating in the extreme. The whole *C&VG* team fought over it for three days — a record equalled only by Mattel's Burger Time.

Boog a Boo doesn't have the cavern to himself — hungry pterodactyls fly around waiting to pick off helpless insects. Falling



BOOG-A-BOO

off a ledge doesn't cause him any harm unless he falls into the jaws of one of the Venus Fly Traps — then I'm afraid the game is up for poor old Boogie.

Breath-taking graphics, perfect animation and a fresh and original approach to game design have been combined to produce yet another top rate game for the Commodore 64.

Boog a Boo is available from Quicksilva for the Commodore 64 and Spectrum and costs £7.95 for the 64 version.

● Getting started	8
● Graphics	9
● Playability	8
● Value	8



ATARISOFT BOUNCE BACK

ROBOTRON

I wouldn't have believed it if I hadn't seen it with my own eyes! I had always considered a good version of Robotron on a home computer absolutely impossible. But Atari have worked what can only be called a miracle on the Commodore 64.

Atari have bounced back after a disastrous year when they lost millions of pounds on their computers. They have made a very sensible decision to convert all their top games software to other micros. All the Atari titles like Pac-Man and Defender have not only survived the transfer to the '64 but are much improved because of it.

Robotron is set in the year 2084. A breed of free-thinking androids have rebelled against the human race, determined to utterly destroy their oppressors by programming them to turn into destructive mutants. As the only human immune to their programming, it's up to you to save the last few surviving human families.

Armed with an anti-robot laser, you must lay waste to armies of androids beseiging your futuristic city or face the unthinkable prospect of total extinction of the human race.

You can fire and move in one of eight directions. But the direction of movement and firing is independent, so you move up the screen by firing left, right or downwards — just like the original.

Only a handful of human clones remain on Earth. You must touch as many as you can to place them under your protective powers, but you'll have to be careful because the Robotrons know of your existence and home in on you.

The attention to detail in the game is incredible and it's difficult to spot any difference between the graphics of the original arcade game and Atarisoft's version for the '64. Robotron incorporates nine levels of difficulty. Playing anything apart from level one is futile — unless you're Superman — it's so difficult.

The player can use one of two joystick options; either using one stick to move and fire or two separate ones for firing and moving your man. Robotron 2084 is a triumph and any one who claimed Atari were washed out and no longer a major force in computer software will certainly have to eat his words!

Robotron is manufactured by Atarisoft and is available from all Atari stockists for £19.99.

● Getting started	9
● Playability	9
● Graphics	9
● Value	9

KONG BOMBS OUT!

DONKEY KONG

TI owners have been having a rough time of it lately with the announcement that the company is ceasing production of the computer and the continued shortage of affordable software. This review won't add much cheer either, I'm afraid.

It concerns a game called Kong — of the donkey variety. Texas gamers have been crying out for a decent Kong game for ages, but alas this offering from Timeless Software doesn't fill the need.

Pure frustration was the main feeling after trying to get a pathetically slow Mario along platforms and up ladders.

The game does have an original twist that adds difficulty. As you get onto the second platform, a time bomb edges slowly towards the girl. You have to rescue her before it touches her and detonates.

At £7.95 this game is not really up to professional standards — many of our TI readers could write a better Kong game themselves. If you are one of these people, then why not do your fellow TI owners a favour and send it in to us for publication.

● Getting Started	8
● Graphics	3
● Playability	3
● Value for money	3

VERITABLE FLOOD OF MINERS!

MANIC MINER

It's not often that a rip-off is better than the original, but it's generally agreed that that's the case with Manic Miner.

Originally, it was programmed on the Atari and called Miner 2049er, and your job was to explore the numerous caverns of a disused mine.

The idea was then . . . well, er, copied for the Spectrum and sold by Bug Byte as Manic Miner, which has proved amazingly popular. This game has 20 screens as opposed to Miner 2049er's dozen, and, as well as some rather clever programming, there are some funny and original ideas in there.

Each screen is different, and features such hazards as Maneating Toilets, Mutant Telephones, Bouncing Cheques and the like.

Now, after a few delays, the hit game is available for the Commodore 64. It's marketed by Software Projects, headed by its author Matthew Smith, who, I'm told, is really big in programming.

Recently a flood of Miner-type games has hit the software market. Owners of 64s can now try their hand at China Miner, produced by Interceptor Micros.

This game has 30 screens, but unfortunately is not a patch on Manic Miner. The graphics lack the small detail of the Software Prujects game. Instead of the occasional pun on other programmers' names and games, most of the screens here are in that vein.

There are Jumping Jeffs in there, bouncing VU meters (as in Revenge of the Mutant Camels), Mutant Hover Mowers and also Spectrum puns, like Loony Jetman. In fact, there's not much originality at all.

Manic Miner, by Software Projects, is almost identical to the Spectrum version. It even has the same sized screen as the Sinclair machine, with a large unused border surrounding it. Still, apart from the waste of space, the game's great.

Mutant Telephones are still there, and so is Eugene's Lair and all the other screens which went to make Manic Miner a 20-screen wonder for the Humble Spectrum, previously with nothing good to its name except the Hobbit.

So if you're after an arcade game which you won't tire of for a long time, then Manic Miner's recommended. Control is easier and graphics are better. Although China Miner has more screens (and they're much more difficult), it's not such a playable game.

Manic Miner

● Getting started	8
● Graphics	8
● Value	9
● Playability	9

China Miner

● Getting started	6
● Graphics	6
● Value	6
● Playability	8

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FLYING FORTRESS FAILS

ZAXXAN

With the many hundreds of games now available for the Spectrum almost every arcade game that ever saw the light of day has been converted for use on the Sinclair machine.

One exception to this though — is Sega's graphically superb game — Zaxxon.

It is probably because of its exemplary 3D-style graphics that the software houses have, so far, shied away from trying to recreate the beautiful floating blue fortress.

Now a new software house, Starzone, has been brave enough to make an attempt and they ought to be congratulated for taking on such an adventurous project.

That is where the congratulations have to end as the final product is far from satisfactory.

The ship is a crude graphics block and moves in jerks — none of the smooth scrolling graphics of the arcade game or other conversions for other home systems.

The missiles are dreadfully slow taking several seconds to move across screen and connect with the target.

The lack of speed also makes it too difficult to fly over obstacles — which is intentionally difficult in the real game — but annoyingly so in this version.

The ground-to-air missiles — which were such an impressive feature of the arcade game are also crude — like pipes coming out of the ground.

Sound effects are also poor — an odd clicking sound as the missiles move at a snail's pace across the screen.

Anyone who has ever seen arcade Zaxxon knows what a superb game it is — unfortunately this home version does not reproduce the feel of the game, or come close to its excellent graphics.

Available at £5.50 from Starzone of Wantage.

● Getting Started	7
● Graphics	4
● Value	3
● Playability	3

JET POWER JOGGER IS A GEM!

JET BOOT JACK

Jack, the jet-powered jogger, is the star of English Software's latest offering for the Atari range of computers. He zips around happily collecting musical notes in a Manic Miner-style world of elevators, conveyor belts and assorted nasty bugs.

The game may not have the most original theme in the world but Jack is a little graphic gem. He wears a jogging baseball cap and "Walkman" headphones!

The action takes place in the Record Pressing Plant and Jack's one aim in life is to collect enough musical notes to create the greatest music collection in the world! Not much to ask. There are ten multi-level screens and the game features five skill levels with varying hazards and point scoring capabilities.

Jack jogs on his way using his amazing jet-boots and these need refuelling from time to time. To do this, you must guide Jack into one of the several fuel pods dotted around the screen. The game ends if Jack runs out of fuel.

You get bonus lives if you score 10,000, 30,000, 50,000 and 80,000 points — but it should take you some time to reach that level of skill. Unless you've already beaten Manic Miner, that is! Oh yes, you also get a points bonus for completing a screen.

There is a high score feature — with a read-out on the display at the start of each game and on the top of the screen as you play. And the loading display — featuring Jack again — is neat!

You can play the game using the joystick and it will take a bit of time to get used to the ducking and jumping actions. Jack kills bugs in the plant by jumping up and down on the level above the little creatures. The fire button makes him duck under any overhanging obstacles that might block his path. Once you've mastered these controls you'll be off and enjoying yourself.

As I've already said, Jet Boot Jack is not the most original game around — but I found it quite addictive and enjoyable and can't wait to get back to take a crack at reaching that tenth screen!

Jet Boot Jack comes from English Software of Manchester on cassette or disc for the Atari 400/800 and XL range at a bargain price of £9.95 and is available now in major high street stores.

● Getting started	7
● Graphics	8
● Value	8
● Playability	8

DON'T GET MAD, GET EVEN!

DOOMSDAY CASTLE

Zippy is my tip to become the next superstar of computer games. His name will soon be up there in lights alongside the other greats like Miner Willy and Hungry Horace.

Many of you will already have encountered Zippy in his first game — The Pyramid. Following the success of The Pyramid, Fantasy Software have rushed out a sequel with no apparent concern at typecasting their new protégé.

Doomsday Castle follows the now familiar pattern of the arcade-style adventure game. You have to negotiate our hero through no less than 75 interconnecting halls and labyrinths, dodging the nasties and collecting six precious stones en route.

Doomsday Castle is proof that Ultimate do not have a monopoly on pretty smooth scrolling graphics. This is the prettiest game I've seen since Pssst!

It's addictive to the point of frustration and I for one am determined to get even with that darned Scarthax one of these days.

Available now at £5.95 from most good software shops.

● Getting started	6
● Graphics	9
● Value	9
● Playability	8

A CHARIOT MADE FOR TWO

CHARIOT RACE

Two-player games seem to have gone out of fashion recently. In the Atari VCS's heyday, almost every other cartridge Atari released for the machine needed two people to play it.

But games on computers have always tended to have a sole player pitted against the computer in inter-planetary war or gobbling-ghost contests. Chariot Race for the Vic 20 provides a refreshing change by letting you and mate try to kill each other!

The game is set in a suitably barbaric era — the height of the Roman Empire — and is, as the title suggests, the Indy 500 with horses and carts.

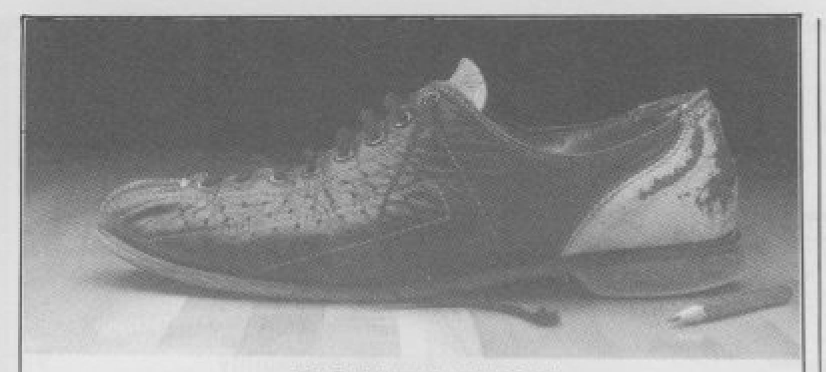
The aim of the game is to avoid running into the back of other chariots and to try to push your opponents into the walls of the arena and crush them under the horses's hooves.

The graphics are good and shame many of the games on the Vic's big brother the '64. I can recommend Chariot Race to anyone — well good Vic games are few and far between.

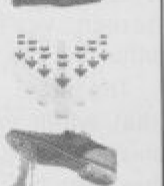
Chariot Race is available by mail order from Micro Antics or high street retailers for an asking price of £6.95.

● Getting started	7
● Graphics	9
● Value	7
● Playability	7

continued on page 32



DON'T LAUGH. FIVE MINUTES OF ALLEY-OOPS AND YOU WON'T BE ABLE TO TAKE YOUR EYES OFF IT.



Oh sure—it might look silly now. But wait'll it's hurtling toward you, threatening to destroy your perfect game. You'll take it seriously then.

And bowling shoes won't be your only worry. You'll also have to watch for diabolical beer bottles, evil pin sweeps and vicious gum spots.

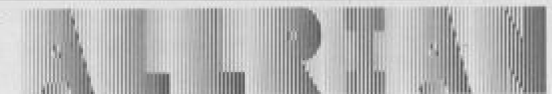
Sound strange?

Sure. But battling such weird objects is exactly what makes Alley-Oops so original. And so incredibly fun to play.

Alley-Oops is real arcade stuff. In fact, it's a challenge just to get to the next level of play. And there are 8 levels, the last one being the nearly impossible Challenge Round.

There are all kinds of ways to play Alley-Oops—try to mount up points, score a perfect game or reach that highest level. Whichever way you choose, you'll have endless fun playing Alley-Oops.

Just remember—don't take the bowling shoes lightly. After years of being kicked around bowling alleys, they're out to get even.

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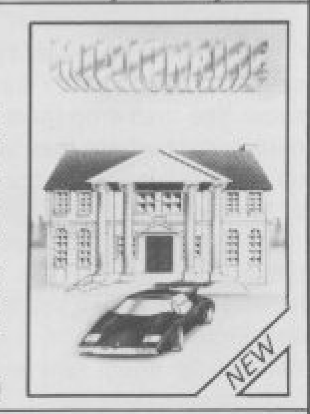
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continued from page 30

A GAME TO MELT YOUR HEART

THE SNOWMAN

You've seen the cartoon on Channel Four. You've read the book. Now play the game!

The Snowman, a book without words by Raymond Briggs and a beautifully animated film, has been turned into an arcade-style game for the Spectrum. There are also plans to computerise Raymond's other books — including children's favourite *Fungus the Bogeyman* and the extremely depressing picture version of the aftermath of nuclear war called *When the Wind Blows*.

Getting back to happier things, The Snowman is set at Christmas time. You are the young hero and have first to build the snowman.

To do this, you must travel round a Manic Miner-type of screen collecting little heaps of snow. You then drop them over a certain spot where they will pile up and gradually take the shape of the snowman.

Once the snowman is completed, your next task is to collect his clothes like tie, trousers and braces. The third level will ask you to equip him with balloons and a skateboard.

Travelling around the screen with you are some flickering flames, just like that character from the gas adverts. Running into one will do you no harm at all, but if you happen to be carrying some snow then it will melt and you'll have to find some more.

You can get round this problem by finding an iced lolly which will freeze the flame and gain you extra points.

You'll also need to find regular supplies of food, as your energy level ticks away at the bottom just like Manic Miner. As the game is set at Christmas there are plentiful supplies of turkey and pud.

I liked this game a lot. The graphics are great — and the title screen's got a wonderful picture of the snowman to look at while the game loads. It's very playable, although I often found control quite difficult. The character has to be perfectly central in the columns before he can move.

If, like me, you're one of those who can't stop singing "We're walking in the air . . .", the theme tune from the film, all day then you'll love this.

The Snowman is produced by Quicksilva and runs on a 48k Spectrum. It costs £6.95.

● Getting started	9
● Graphics	9
● Value	9
● Playability	8

LEAP THAT LADDER AS LENNY!

LEGGIT

The simple ideas are always the best ones. So goes that old Chinese proverb. And Imagine has kept to that idea with Leggit, for although the idea and the program are very simple, it's deceptively difficult to play.

As "Leaping Lenny", you are placed at the bottom of the screen. Above you are eight thin horizontal lines which go up the screen like a wide ladder. Small gaps of about an inch in length travel apparently at random along the lines. When one appears over your head, you press the Jump key to rise up a rung. Apart from this key, your only controls are left and right.

The problem arises from the fact that once you're away from ground level the gaps appear not just above you but also on the line on which you happen to be standing. If you see a gap coming towards you, then you can move left or right to avoid it. When you go off the side of the screen, you'll reappear on the other but the gap will not.

The other infuriating point is that when you lose a life (by missing the gap and hitting your head, or by falling down to the bottom level from wherever you happen to be), you are stunned for about five seconds. During this time, while the stars rotate around your head, you are unable to move.

You can often fall down by three or four levels as a consequence of losing a life, and this is especially annoying as there is no skill involved. You may be lucky and fall down only one or you may be unlucky and end up at the bottom.

On the original Spectrum version of this game (called Jumping Jack), there was a poem which unfolded itself a line at a time after you reached the top on each of the 20 possible screens. Imagine seems to have had its poetic licence confiscated in this version though, as the poem doesn't appear (don't ask me how long it took to find out).

The other rewards for completing a screen are still there, though. After each screen a nasty appears which travels between the lines. These are deadly and will cost you a life if you hit one. A new nasty appears after each screen, making it pretty difficult to get to the top as the game progresses.

They say that a game is judged by how often you come back to it. I couldn't leave this one alone. I spent most of an afternoon trying to get to the top on the first level. The graphics are adequate and it's pretty addictive, although I must admit that a little of its addictive quality was lost after I'd finished the first screen.

The Dragon's got the right keyboard on which to relieve your frustration when you get knocked down by five levels! Remember, on a Spectrum no one can hear you type!!

Leggit runs on a Dragon 32. It's available from Imagine software and costs £5.50.

● Graphics	5
● Getting Started	9
● Playability	9
● Value	9

GLITTERING GAME FOR THE BEEB

DIAMOND MINE

Diamond Mine is a little gem of a game for the BBC B. You are in control of a mining operation out to dig up diamonds from the depths of a bug infested labyrinth.

Once you begin loading the game, a painless operation, you'll be presented with an informative instruction page which comes up as the main part of the game is still loading. Then it's on to the game and you get a screen full of maze, full of nasty creepy crawlies and those very precious diamonds.

At the top of the screen is your pipe-laying machine — and you have to guide this pipe to the nooks and crannies where the diamonds are. The pipe sucks up the gems and deposits them in a store at the top of the screen so you can see just how rich you are getting.

The graphics are pretty and the game action quite addictive, although you'll have to spend some time mastering the four control keys before you get really used to controlling the pipe.

If your pipe hits any of the mine walls, or if a bug bumps into it, it will shoot back to the top of the screen and you'll have to start your search for diamonds all over again.

There are several different screens to defeat, and the game features a hi-score read-out which enables you to enjoy competitions with your friends.

Diamond Mine is a game of timing and strategy and will keep maze game fans happy for hours. It comes from MRM Software of Grimsby and will set you back £4.95 — a really fair price for this nice, non-violent game.

● Getting started	5
● Graphics	7
● Value	8
● Playability	7



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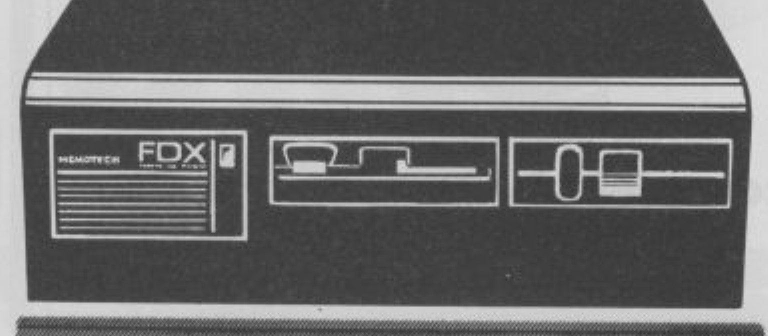
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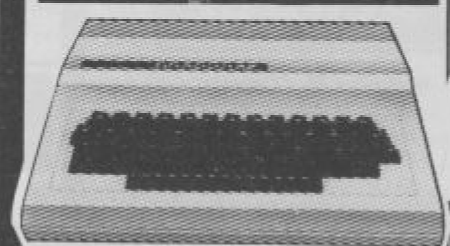
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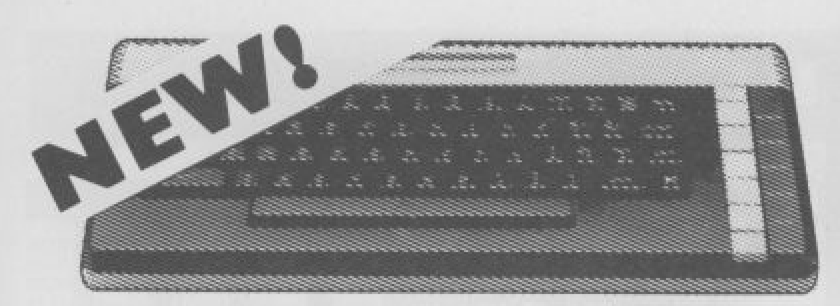
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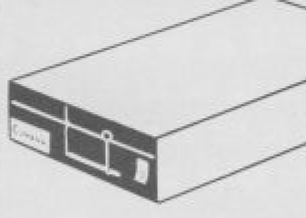
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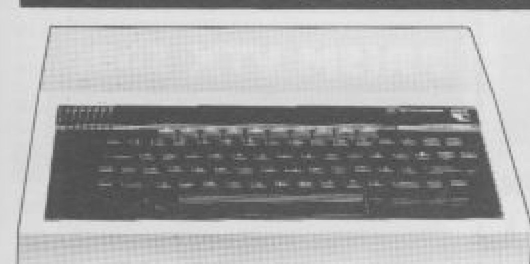
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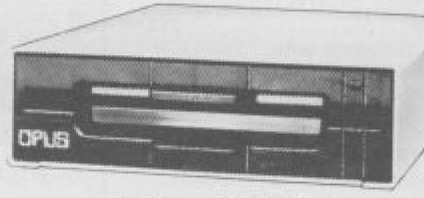
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Not all stores carry every advertised item, please phone before making a journey - prices correct at time of going to press E&OE



We're always looking for new and exciting competition ideas — and this time we think we're on to a winner! All we want you to do is pick up your telephone, dial the *C&VG* hotline number and listen. . .

We've taped the sounds of six top CBS ColecoVision games — all you have to do is Name that Tune! Below you'll find some clues to help you, but beware, the clues are not necessarily in the same order as the tunes on our hotline tape machine! Remember, the entry on your coupon must name the games in the same order as they appear on the tape.

The number to dial is 01-278-3881 — but remember there is bound to be a rush to the telephones so don't panic if you can't get through at first. We're holding the competition open until April 16th, so you've got plenty of time to call in and listen to the tunes.

THE CLUES

1. You won't sneeze at this game!
2 These aliens will really make you angry!
3. Don't monkey around with this character.
4. All the fun of the fair?
5. Tom and Jerry would enjoy this game.
6. Where are you all coming from? Words from a well known tune?

Once you've worked out the clues and placed a name to the tunes, just fill in our hotline competition coupon and send it to *Computer and Video Games* Hotline Competition, Durrant House, 8 Herbal Hill, London ECIR 5EJ.

Don't call us with your answers — we won't be able to deal with your contest entries over the phone. We can only accept entries on the special hotline coupon.

So what will you win? The first 25 Coleco owners out of the *C&VG* memory bin with correct answers to our hotline quiz will receive one of Coleco's latest cartridges for their home video system. But don't feel left out if you are an Atari VCS owner — as you know, Coleco also make games cartridges for your machine, and we've got 25 brand new games for you too.

The phone lines will open at 10 a.m. on March 16 and stay open 24 hours a day until 5.30 pm on April 16th. Closing date for entries is May 16th — so your completed coupon must reach the *C&VG* office on or before that date.

HOTLINE COUPON

To: Computer and Video Games Hotline Competition, Durrant House, 8 Herbal Hill, London EC1R 5EJ

NAME THE GAME

1		**4**	
2		**5**	
3		**6**	

Name ....

Address ....

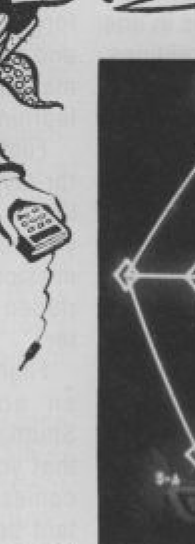
....

Tick box for system you own: ColecoVision ☐ **Atari VCS** ☐

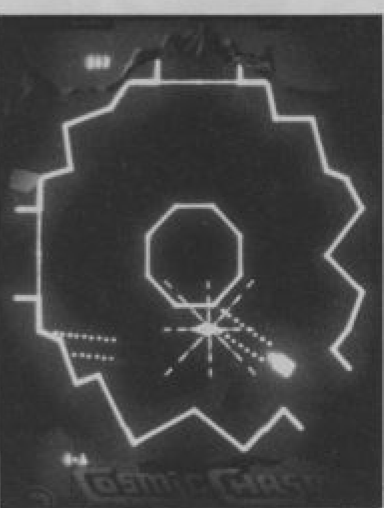


GAMING

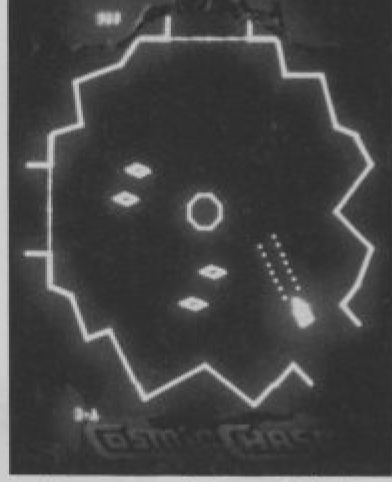
THE PLANET PROTECTORS ARE THE PROBLEM!



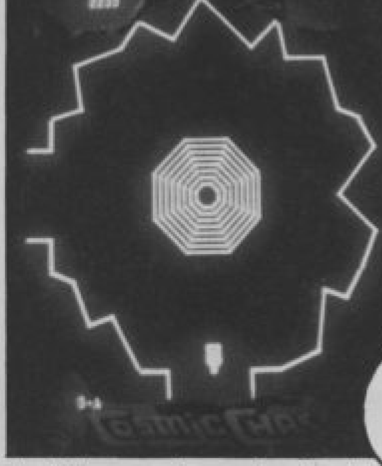
The opening screen shows the Chasm map.



Blast those Planet Protectors!



Another cavern and yet more Protectors. Use your shields wisely.



The final cavern. Lay your bomb and get out quick!

Welcome back to the wonderful world of video-games. I'm Professor Video — Computer and Video Games' very own lecturer in the art of winning and master of alien bashing! This issue, I'm taking a look at a game for that wonderful box of tricks the Vectrex. The game is called Cosmic Chasm and must be one of the best games for the home video system that comes complete with its own screen and a nice line in vector graphics.

Cosmic Chasm is a game of strategy and skill. The aim is to pilot a space craft to the centre of an enemy planet, plant a bomb and escape. Sounds easy — but believe me it takes some doing!

To reach the centre of the planet, your ship has to pass through a number of caverns within the planet, each defended by Planet Protectors and force fields.

The game starts when you see a map of the different routes you can take through the planet to reach the central cavern. You must pick the quickest route and memorise it before you enter the first cavern — where the Planet Protectors wait. As soon as you enter the cavern, these little craft swarm towards you.

You are armed with twin laser blasters and a defence shield. Use your lasers to shoot the Planet Protectors, but if they get too close, press the shield button on your Vectrex controller.

You can't shoot while your shield is up, but the Planet Protectors will bounce off it, giving you time to drop your shield and blast them. With some practice, you can become skilful at bouncing and shooting. A very satisfying pastime! Don't take too long over defeating the Protectors — the core of each cavern is gradually expanding and will make manoeuvring a real problem. Once the Protectors are out of the way, move to the exit from the cavern that will take you onto the next on your planned route.

Don't take the wrong one otherwise you'll be lost in a maze of corridors and caverns! Each exit is protected by a force field.

This is where your ship's drill attachment comes in. And you thought it was for some do-it-yourself in space! Carefully manoeuvre your ship up to the force field with your drill running and bore a hole through it. Once you've successfully done this, you'll be moved automatically to the next cavern — where yet more Protectors wait!

Repeat the process in all the caverns until you reach the central core. Here the Protectors move more quickly, so you'll have to be on your toes otherwise you'll soon find yourself back at the start of Mission One!

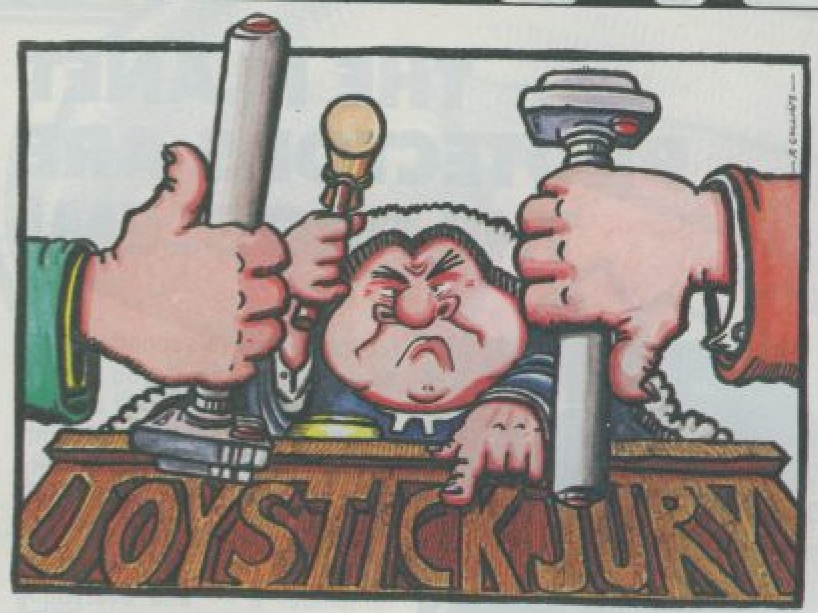
So, you've managed to wipe out the central core's Protectors have you? Well now comes the difficult part! Move as close to the core as you can, line yourself up with the exit you intend to use, and then plant the bomb.

As soon as the bomb is planted, the 15-second countdown begins, so if you take a wrong turn on your way out you are done for. You'll end up fighting Protectors instead of making for the exit and be wiped out in the blast! Just go out the way you came in — hopefully you can remember it — and everything will be OK! That is unless the cores in the caverns you have cleared of Protectors have expanded enough to make manoeuvring difficult enough to hold you up beyond that 15-second time limit.

If you manage to escape the doomed planet before the blast, you'll move on to the next mission — with a longer and more tortuous route to the central cavern to deal with.

Cosmic Chasm is one of my favourite Vectrex games. I hope these hints will help you get the most out of it! More hints next time. See you in May!





FANTASY JOURNEY INTO DEEP SPACE

Space, the final frontier — well you all know how that famous quotation continues. Now you can take a trip to the stars in one of Nasa's billion pound creations, the Space Shuttle, thanks to those video-game innovators Activision.

The Atari VCS is the key to this journey into space. The idea is quite simple. You have to pilot your Space Shuttle on a mission to rendezvous with a crippled satellite and then make it safely back to earth and a landing at Edwards Airforce base.

But when you come to play the game things get a little more difficult! When I tell you that the game comes complete with a 32-page flight manual, you'll perhaps get some idea what I mean. This is definitely not a game for the Zap! Boom! Pzzzang! brigade. The nearest thing to it are those flight simulator programs for home micros.

The package also comes with an overlay for your Atari's several switches. This turns the console into a simulated instrument panel for your "shuttle".

You can play the game in one of three ways. Game one is described as an "autosimulator". What this means is that you can forget about the consol controls and concentrate on your joystick manouvres — at the same time learning about the game.

Flight two is an actual simulator-style challenge which is just like a real flight — except that you never use any fuel and most mission abort reports are overridden by your "onboard computers".

Flight, or rather game, three is an actual unassisted Space Shuttle flight. What this means is that you're on your own when it comes to making all the important decisions!

After several "training" flights you'll be ready to take on a full flight. You have to dock as many times as you can with the satellite — this gets more difficult after each successful docking manoeuvre.

If you manage to make it back to earth and land you'll get a flight ranking. You could become anything from a simple Payload Specialist to a fully fledged shuttle Commander.

And, as with all Activision

GET SOME SLICK ACTION!

Boing! Boing! *£@&! And Q*bert bites the dust.

Yes, he's back again and this time to haunt the Philips G7000, together with his pals Coily, Wrongway and the Balls.

With three different coloured balls and Slick, the colour-changer, in hot pursuit, Q*bert has to keep his wits about him as he hops round the pyramid changing the coloured squares by jumping on them. Coily and Wrongway are the ones to watch — they're out for Q*bert's blood. Luckily for Q*bert, there are two escape discs he can use when in dire straits. If he jumps on to these at an opportune moment, Coily will leap after him straight into the void.

Slick, who's just plain obstructive, makes life harder for the long-suffering Q*bert as, every time he jumps on a square, it changes colour and Q*bert has to keep backtracking to change them back again.

As you get further into the game, Q*bert will have to jump on each square twice to go through two colour changes in one level.

Unfortunately the graphics capabilities on the G7000 portray Q*bert and his pals in block graphics — rather like little Legocreatures. There are no rounded edges and he loses that rather cute look he has when portrayed on machines like the Atari VCS.

However, the game has been faithfully reproduced from the original arcade version and it's one of the better arcade-style games I've seen on the G7000.

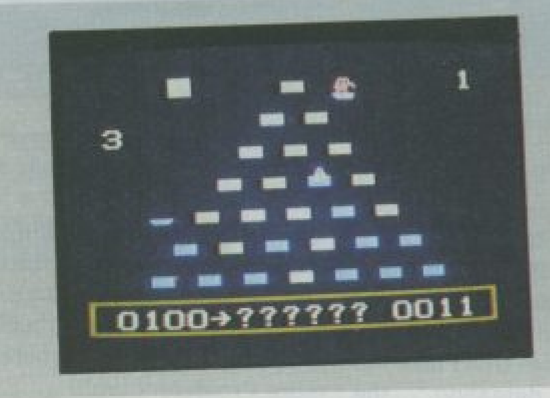
It's a shame more game manufacturers don't make decent cartridges for this machine!

Licensed by Parker Brothers for the Philips G7000, Q*bert is available at around £30.00

THE VERDICT

If you like cute games, then this one is for you. However if you have an itchy trigger finger, then I'd go for something with a bit more action.

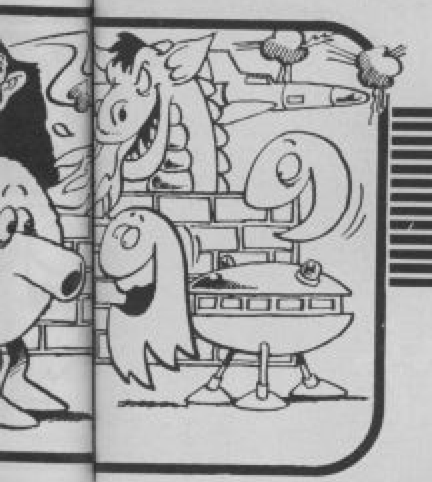
- **Action** ⊥⊥⊥
- **Graphics** ⊥⊥⊥
- **Addiction** ⊥⊥⊥
- **Theme** ⊥⊥⊥











GAMING

games, you can send off for your special Space Shuttle pilot wings if you manage to dock six times with the satellite during one flight and get that coveted Commander ranking!

Each part of the flight, launch, docking, and return to earth is a complex game in itself and will keep you entertained for hours — if you are prepared to take time to learn the game that is. As I've already said, Activision's Space Shuttle is not a regular video game shoot out.

There's just not enough space here to go into the game in full — suffice it to say that this reviewer enjoyed attempting to play it immensely.

How authentic is the game? Well, the booklet features a brief article by the author Steve Kitchen who is pictured sitting in a Nasa Shuttle simulator. He says that he got a first hand look at how the Shuttle works and that his cartridge is as close to the real thing as is possible. But does it ever lose any satellites completely, I wonder?

THE VERDICT
The best "serious" game for the VCS around. It will take some time to master — but it's well worth it!

- **Action** ♟♟♟♟♟
- **Graphics** ♟♟♟♟
- **Addiction** ♟♟♟♟
- **Theme** ♟♟♟♟♟

LOOPING THE LOOP!

If ever you had cause to question the impartiality of Joystick Jury, it may be now, so I will openly declare my interest.

I love this type of game up before the jury — Looping for ColecoVision. It is the type of game where you have to shoot, move and manoeuvre your craft around obstacles and through narrow gaps.

The immense popularity of the scrolling shoot-'em-up originated with the arcade game Scramble.

Looping takes the basic fun element of Scramble a stage further. You control a tiny craft which you have to manoeuvre through a cavernous network of blue pipes. To open up the gate to the pipe network you must first blast the ground-to-air rocket sitting on the launch pad.

In order to get a clear shot you will have to loop the loop to dodge the balloons floating up towards you from the city below.

What's more, your ship is relatively small, making the pipe network seem like a vast maze.

I really enjoyed playing Looping — despite the fact I did not penetrate very deeply into its blue tree of paths.

My only gripe is, as usual, not with the piece of Coleco software but with those darned joysticks — which are at their worst in games like Looping where careful manoeuvring is required.

The good news is that Coleco have now developed a new super joystick which will be in the shops this summer at around the £20 mark.

THE VERDICT
Addictive fun for your Coleco. If you've already got Donkey Kong Junior and Q*Bert, this is worth considering at £29.99.

- **Action** ♟♟♟♟
- **Graphics** ♟♟♟♟
- **Addiction** ♟♟♟♟♟
- **Theme** ♟♟♟

NOT SO SUPER CHOPPER!

As an avid Scramble fan, I was looking forward to plugging Super Cobra from Parker Brothers into my Atari VCS. But be warned — this chopper is definitely not Blue Thunder!

Super Cobra follows the standard Scramble format. You fly your helicopter over an ever-changing landscape, through caverns and over skyscraper cities, meanwhile rockets blast off from the ground to shoot you out of the skies, guns on the ground fire at you and, on some screens, flying fireballs and deadly airborne mines add to the hazards.

The Parker version of this now famous game includes eleven screens and in the eleventh you have to swoop down on the target of your flight — the treasure!

At the top of the screen you'll see a level/mileage indicator which tells you how far you are in the Cobra system. As in Scramble, you blast fuel dumps to keep your craft in the air.

Points are scored by hitting various targets along the way and you get 900 points for every stage — or 1,000 miles — that you manage to complete. You get a 5,000 point bonus if you pick up the treasure.

The game can be played in three modes, slow, medium and fast and you can start a new game where you finished a preceding one by quickly pressing your joystick fire button after you've lost your last chopper. You can also freeze the action by pressing the TV type switch to the B/W setting.

Unfortunately, the graphics are really not that great and the sound effects not that exciting.

Having said that, you do need to have pretty quick reactions — even on the first fairly easy stage — to keep your Super Cobra away from the jagged cavern walls, and perhaps with the "continued" feature, which means you don't have to go back to level one when you've lost your last chopper in level 10, you might not get too bored too quickly. However, you'll probably find a better game for the asking price of £29.95.

THE VERDICT
Not the most original game in the world.

- **Action** ♟♟♟♟
- **Graphics** ♟♟♟♟
- **Addiction** ♟♟♟♟
- **Theme** ♟♟♟

RACE ACES REV UP!

Atari's Pole Position must be one of my all time favourite arcade games — and now this ace racing game has been recreated on the Vectrex machine.

Although the Vector graphics can't reproduce the fine detail of the original, this Vectrex cartridge has a good try. The massive Mount Fuji looms large over the race track as you attempt to qualify for a place in the Vectrex Grand Prix. Your Formula One race car looks good and there's a nice 3D-style effect when you turn corners in pursuit of the other racers.

The Vectrex version even includes the signposts at the side of the track which were an attractive feature of the original.

Game action is fast and the controls are quite simple. You use the joystick to guide your car and two buttons on the controller are used to change gear — essential for a quick time around the track. Two more buttons put the power down!

The screen score read-outs are identical to the original arcade version. You are told what gear you are in, what your score is, how much time you have left to qualify or race, your speed and elapsed time.

You get 120 seconds to complete your qualifying lap. But be warned, you need to get a really fast time to qualify for the Vectrex Grand Prix proper. If you qualify, you get ninety seconds to complete the first race lap and if you manage this you'll get 60 seconds to complete the second, third and fourth laps.

Game play continues until you fail to complete a lap in the time allowed or when you have completed all four race laps. If you manage to finish the race, you'll earn a 200 point bonus for each second remaining on the countdown clock.

There is a high score feature included in the game — so although Pole Position is a one player game, you'll be able to challenge your friends!

I'm not sure if Pole Position is as good as the other Vectrex racing game already available, Hyper Chase, but if you like racing games — and Pole Position in particular — you won't be disappointed with this new Vectrex offering. Pole Position is available now and will set you back £29.95.

THE VERDICT
A great game for motor racing fans. But we don't think it's quite as good as Vectrex's own Hyperchase.

- **Action** ♟♟♟♟
- **Graphics** ♟♟♟♟
- **Addiction** ♟♟♟♟
- **Theme** ♟♟♟

micro music



WE'RE not promising that the music programs on the following pages will turn you into a master musician overnight but your composing skills could win you a wonderful — and very expensive — Yamaha keyboard! What we want you to do is turn your micro into a musical instrument using these special *C&VG* micro music programs.

Use them to write a tune, record it on an audio tape and then send it in to us at the *Computer and Video Games* offices.

Waiting to listen to your top tunes will be *Vince Clarke,* the man who used computer controlled music to create several top ten chart hits with that great duo *Yazoo*. He also wrote *Only You,* which the *Flying Pickets* turned into a massive Christmas hit a few short months back.

Vince will take time out to turn a well tuned ear to your micro music compositions and will be picking out the winning tunes.

We've got three great prizes up for grabs. Our first prize winner will get an amazing Yamaha CN-100 keyboard, which features Yamaha's advanced Playcard system. All you have to do is slot one of these Playcards into this sophisticated keyboard and you're on

ALLIGATA THE SOFTWARE WITH BITE BRINGS YOU

DAMBUSTERS

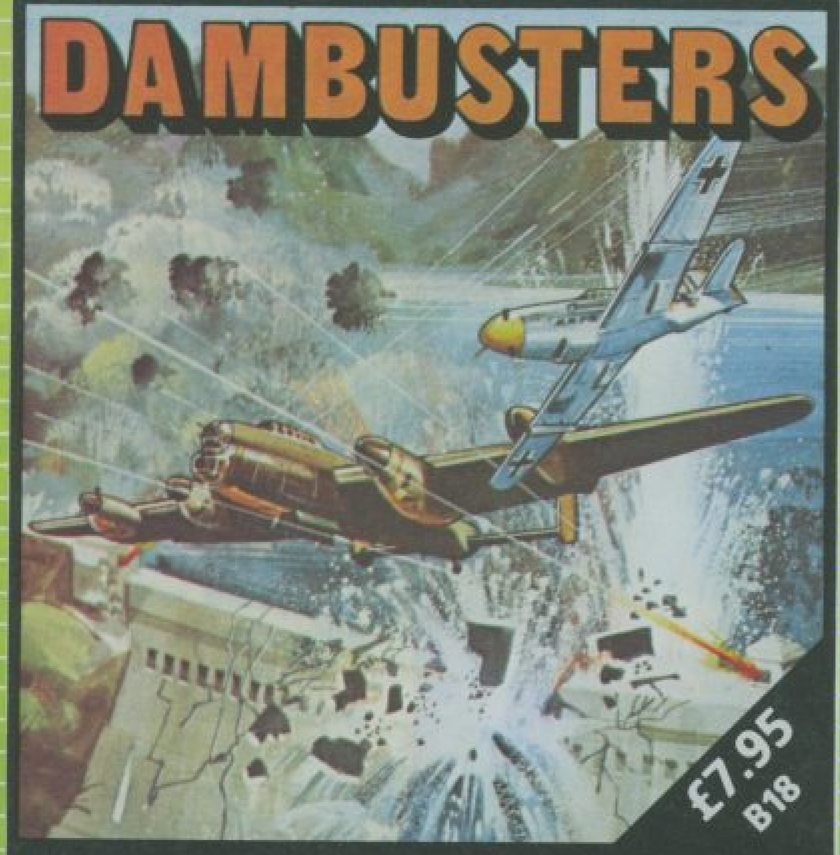
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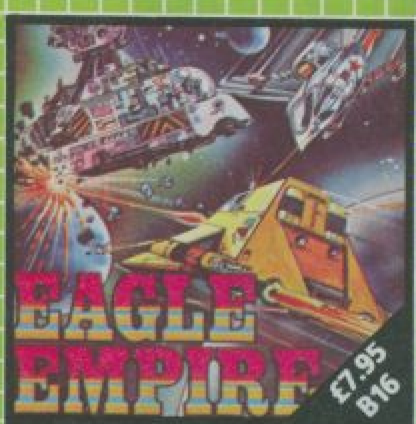
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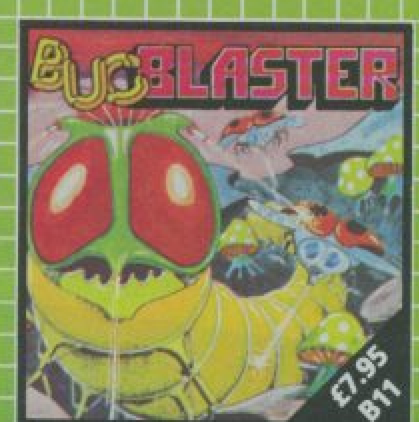
B07 LUNAR RESCUE £7.95
Land your moon buggy and rescue a precious cargo, destroying all opposition on the way; finding your way back to the mother ship start again against greater odds.

B12 PRIMARY ART £7.95
Create a picture to be proud of – place pre-programed shapes in any position, any size or any colour. Features free-hand drawing and animation effects.

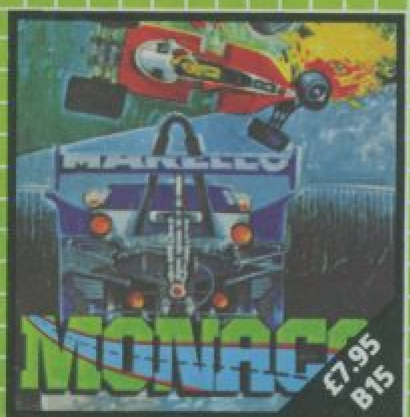
B03 DMON £7.95
Disk £11.95 ROM £19.95
A superb machine code monitor and disassembler available on BBC. Features: Full disassembler with ASCII dump, full hex dump with ASCII, reads any ROM, edits any byte of RAM, and many more.



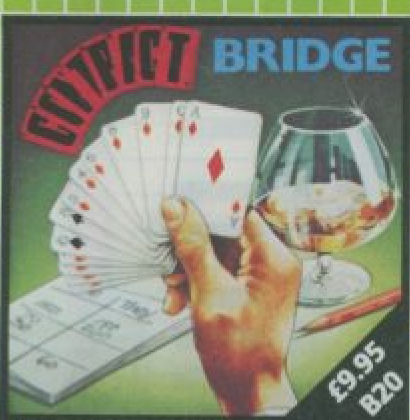
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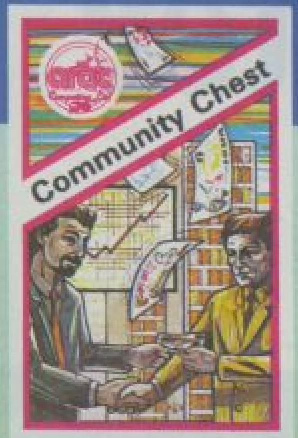
Card No. ______ Signature ______

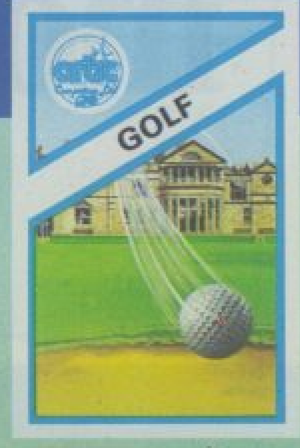
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Tonight you could be lost in a world of a thousand mirrors

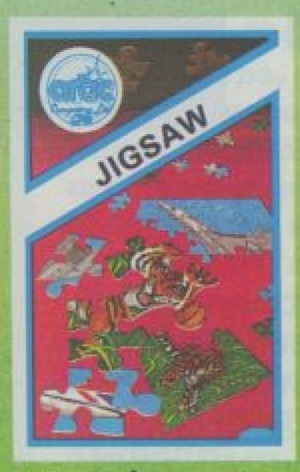




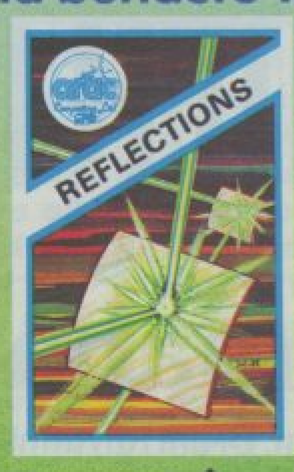
Check out these exciting NEW mind-benders from Artic!

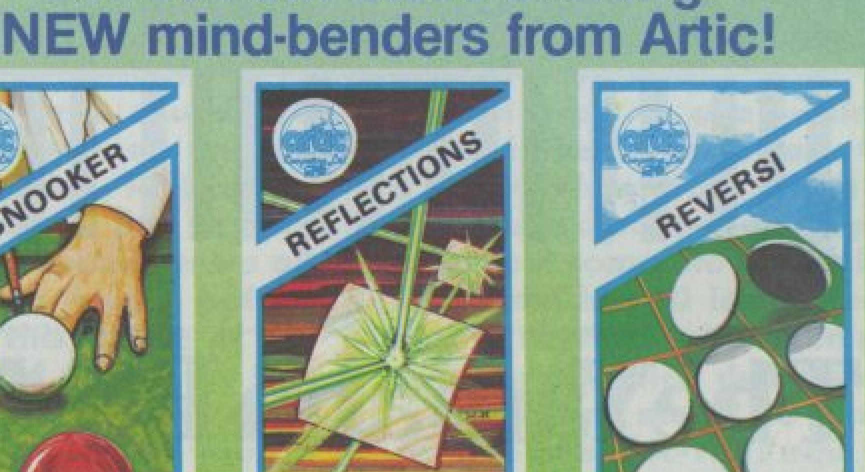
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RUNS ON A COMMODORE

BY ROBERT SCHIFREEN

If you've never tried making music on your 64 then now's the chance to give it a whirl.

This listing will allow you to use the top row of the keyboard to produce notes. The whole of the top row is used, starting at the left arrow which gives a B. The number 1 will produce a C, and the scale continues up the keys.

The duration of the note is set in a FOR/NEXT loop which turns it on when you press a key and turns it off after a set time. The time is set in line 55 to a value of 70, but you can change this if you wish to alter the sound. A smaller value will make a shorter, warbling sound.

```
5 GOSUB 1000
10 POKE 54296,15
20 POKE 54277,9:POKE54276,17
40 A=PEEK(197)
50 POKE 54273,N(A):POKE54272,N1(A)
55 FOR X=1TO70:NEXT
60 POKE54276,8:POKE54276,0
80 GOTO 20
950 END
1000 DIM N(70)
1010 READ N(57),N(35),N(56),N(59),N(8),N
(11),N(16),N(19),N(24),N(27),N(32)
1015 READ N(40),N(43),N(48),N(51),N(0)
1020 DIM N1(70)
1027 READN1(57),N1(40),N1(43),N1(48),N1(
51),N1(0)
1030 READ   N1(35),N1(56),N1(59),N1(8),N
1(11),N1(16),N1(19),N1(24),N1(27),N1(32)
1040 DATA16,43,16,19,21,22,25,28,32,34,3
8,45,51,57,64,68
1050 DATA47,52,37,63,154,227,177,214,94,
175,126,198,97,172,188,149
```

```
1500 PRINTCHR$(147)
1510 PRINT"
1520 PRINT"                    MUSIC - 64"
1530 PRINT:PRINT               .........."
1540 PRINT"THE TOP ROW OF THE KEYBOARD W
ILL"
1550 PRINT"PLAY LIKE A PIANO KEYBOARD.
THE"
1560 PRINT"  KEYS ARE ARRANGED AS FOLLOW
S"
1565 PRINT
1570 PRINT"         1 2 3 4 5 6 7 8 9 0"
1580 PRINT"         C D E F G A B C D E"
1585 PRINT
1590 PRINT"THE OTHER KEYS ON THE TOP ROW
 WILL"
1600 PRINT"PLAY THE NOTES EITHER SIDE OF
 THIS"
1610 PRINT"SCALE."
2000 RETURN

READY.
```

your way to sounding just like your favourite pop group! Don't believe us? Well find out by trying to win it!

The CN-1000 has stereo sound, 24 different instrument "voices" and an amazing Stereo Symphonic feature.

The CN-1000 also has a live rhythm section! Yes, the drum sounds were all actually recorded in a studio before being crammed into this "state of the art" Yamaha keyboard. In fact the CN-1000 has so many features there's just not enough space here to tell you all about them. Suffice it to say that all the *C&VG* staff want one!

Second prize is equally exciting — it's a Yamaha Portasound PC-100 keyboard — which again features the new Yamaha Playcard system. These ingeniously designed Playcards are used to program the PC-100. Stored on each magnetic strip of the Playcard is an entire music score, including melody, rhythm and accompaniment. The Playcard system gives this advanced keyboard an electric brain — which means that anyone can enjoy playing this great portable keyboard even if you've never played a note before! If you are an experienced player, you'll still enjoy playing duets along with the programmed tunes. And of course you can always use it as a normal keyboard!

Third prize in our musical extravaganza is the Yamaha PortaSound MP-1, a compact keyboard which comes complete with a built-in music printer which prints out complete musical scores! This little gem has 10 instrument "voices" and 10 rhythms with a tempo control — you can also play duets with yourself!

All this and more! 20 runners-up will receive one of K-Tel's new Doublesider tapes called It's Only Rock and Roll — very suitable for all you would-be rock stars out there. In it you have to steer your group to stardom, avoiding crooked managers and making hit records. On the B-side of this tape is another Adventure-style graphical game called Dracula's Tomb — guaranteed to send shivers down your spine! We'll also be throwing in some *C&VG* "The Champ" t-shirts for good measure and we might just be able to persuade Vince Clarke to give away some of his latest records performed by his new group *The Assembly*.

As we've already said, all we want you to do is use the music program which is suitable for your micro.

RUNS ON A VIC

BY ROBERT SCHIFREEN

This program makes use of just one of the Vic's sound channels.

It allows you to play a tune using the top row of the keyboard. All the keys on the top row may be used.

The first key (left arrow) has a tone of C and the following notes go up in steps of a whole tone. There is no facility for producing semitones in this version.

The duration of the note is shown on the screen, and can be moved up and down by pressing the Z and X keys.

```
5 GOSUB 7000
10 GOSUB 1000
12 GOTO 3040
15 LETX=PEEK(197):IFX=64THEN15
17 IF X<9 OR (X>55 AND X<63) THEN 20
18 GOTO 3000
20 POKE 36878,15
30 POKE 36876,N(X)
40 FORD=1TONL:NEXT
45 POKE36878,0
50 GOTO 15
1000 REM READ NOTES
1010 DIM N(62)
1020 FORX=0TO8
1030 READN(X)
1040 NEXT
1050 FORX=56TO62
1060 READN(X)
1070 NEXT
1080 DATA147,163,183,195,207,215,223,228
,135
1090 DATA 159,175,191,201,209,219,225
1500 PRINTCHR$(147)
2500 RETURN
```

```
3000 REM TESTS
3010 IF X=15 THEN POKE 36878,0:POKE198,0
:PRINT"▙":END
3020 IF X=33 AND NL<>0THEN NL=NL-10
3030 IF X=26 THEN NL=NL+10
3040 PRINT"▙"
3045 PRINT
3050 PRINT"  RETURN - QUIT"
3055 PRINT
3060 PRINT"  Z / X  - ALTER NOTE"
3065 PRINT:PRINT:PRINT
3100 PRINT"   NOTE LENGTH= ";NL
3200 PRINT:PRINT
3250 PRINT"PRESS TOP ROW TO PLAY"
4000 FOR D=1TO150:NEXT
5000 GOTO 15
7000 REM INSTRUCTIONS
7200 PRINT"▙"
7500 PRINT"        VIC SYNTH"
7505 PRINT
7510 PRINT"THIS PROGRAM ALLOWS"
7520 PRINT"YOU TO PLAY YOUR VIC"
7530 PRINT"KEYBOARD LIKE AN"
7540 PRINT"ORGAN."
7542 PRINT
7545 PRINT"USE ALL THE KEYS ON"
7550 PRINT"THE TOP ROW."
7555 PRINT
7560 PRINT"'+' IS A 'C'"
7580 PRINT
7600 PRINT"PRESS RETURN TO QUIT."
7650 PRINT
7700 PRINT"THE LENGTH OF THE"
7800 PRINT"NOTE IS ALTERED BY"
7900 PRINT"PRESSING 'Z' AND 'X'."
8500 PRINT:PRINT
8900 PRINT"     PRESS ANY KEY."
8900 IFPEEK(197)=64THEN8900
9000 RETURN

READY.
```

RUNS ON AN ATARI

BY JUSTIN WHITTAKER

This program will turn your Atari home computer into a simple digital synthesiser. This is achieved by using a feature of the in-built "POKEY" sound chip which allows us to move a loud speaker from fully-out to fully-in — sixteen positions in all.

A machine code subroutine attached to a Basic program will move the television speaker at a fast enough rate to produce a waveform which is audible to the human ear as sound.

A sound is simply a movement of air which strikes the eardrum. Different sounds are distinguished from each other by the shape of the airwave. The program will allow you to define the shape of a waveform, which you then play on the keyboard of your computer. Tunes can be played once you get the hang of the layout, which is the same as a piano keyboard.

Playing every note down the keyboard, including black notes, would be, starting from middle C: —,P,0,O,9, I, 8, U, Y, 6, T, 5, R, E, 3, W, 2, Q, 1, © ?, ;,] L, [M, J, N, H, B, G, V, C, D, X, S, Z.

Note that any key not on this list will produce odd noises.

Before you run the program, I suggest that you save it, just in case you have wrongly typed in the DATA statements, which will cause the computer to lock up.

When you run the program you will be asked if you want to play the old waveform, i.e. the last one you typed in. Obviously, the first time you use the program there will not be a waveform typed in, so reply "NO".

Now you will be prompted to type in 30 numbers which constitute the waveform. I've included a few sample numbers below. When designing new sounds, it is a good idea to use graph paper, so you can see the shape of it.

After typing the 30 numbers, (whole numbers between zero and fifteen) you will be asked if you want distortion added. Type "YES" or "NO".

Without distortion you will play musical notes, but with distortion you can make sound effects such as tractors, aeroplanes, etc.

To exit the program press "SYSTEM RESET", and re-run the

program if required. You can replay the old waveform by typing "YES" to the first question the computer asks you. Some example waveforms to try are:

Example 1:
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14

Example 2:
0, 0, 0, 0, 1, 3, 5, 7, 9, 11, 13, 15, 13, 11, 9, 7, 5, 3, 1, 0, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0

Example 3:
0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15, 0, 8, 15.

```
10 REM WAVEFORM SYNTHESISER
20 REM (c) Justin Whittaker 1984
30 DIM ANSWER$(1)
40 POKE 752,1:POKE 710,34:POKE 712,36:?
CHR$(125)
50 REM Poke machine code into page 6
60 FOR A=1536 TO 1669
70 READ OPCODE
80 POKE A,OPCODE
90 NEXT A:POKE 764,255
100 ? "Do you want to play OLD waveform
":INPUT ANSWER$
110 IF ANSWER$="Y" THEN 160
120 FOR A=0 TO 29:POKE 702,64:POKE 694,0
130 TRAP 280:PRINT "Enter speaker positi
on number ";A+1
140 INPUT B:IF B<>INT(B) OR B<0 OR B>15
THEN 280
150 POKE 1670+A,B:NEXT A
160 PRINT "Do you want distortion added"
170 INPUT ANSWER$
180 IF ANSWER$<>"Y" THEN A=USR(1536)
190 A=USR(1541)
200 REM Machine code data:
210 DATA 169,0,141,14,212,169,0,141,0,21
2,141,0,210,141,1,210,141,14,210,169,3,1
41,15,210
220 DATA 162,0,189,134,6,24,105,16,141,1
,210,172,9,210,185,71,6,56,233,5
230 DATA 168,136,208,253,232,224,30,208,
229,173,15,210,201,255,208,7,169,0,141,1
240 DATA 210,240,242,162,0,240,211
250 DATA 114,136,102,0,0,0,0,0,35,0,31,4
5,0,40,29,0,182,0,193,0,0,162
260 DATA 217,243,0,0,68,50,0,57,76,85,12
1,0,108,144,0,128,96,91,60,0,64,47,0,53
270 DATA 72,81,37,0,33,0,0,42,0,0,0,153,
204,0,0,173,230
280 ? " ERROR ON INPUT. Try again "
290 GOTO 130
300 REM Remember to save before running!
```

RUNS ON A BBC

BY SEAMUS ST. JOHN

The sound capabilities of the BBC are among the best of any micro currently available, but the sophistication of the system used makes it extremely difficult to get to grips with. You really need to be a computer whizz kid and musician all rolled into one.

Muzak for the BBC gets rid of all the programming problems and will let you get on with the important business of playing music.

Single notes or three part harmonies can be played and up to 2000 notes can be stored and replayed at any time. There is also a choice of three octaves — high, medium and low — which are selected by pressing one of the first three red function keys.

The envelope used produces an electric organ type sound but, if you'd like to change the envelope feel free to do so.

```
10MODE7
12DIMk(19),ot(19)
20DIMMUSIC 2000
30ENVELOPE1,0,0,0,0,0,0,1,30,
-1,0,-1,127,120
40FORI=1TO19
50READk(I)
60k(I)=-k(I)
70ot(I)=I*4
80NEXT
90CLS:PROCtitles
100AVE=2:Time=0
110!MUSIC=0:FLAG=0
120PROCKEYS
130PROCOCT
140PRINT TAB(12,19);"F0=LOW"
150PRINT TAB(12,20);"F1=MEDIUM
"
160PRINTTAB(12,21);"F2=HIGH"
170PRINTTAB(13,22);"X=STOP AND
REPLAY"
180PRINTTAB(13,24);"RECORD ";
190REPEAT
200*FX15,1
210IF INKEY(-33) THEN AVE=0:PR
OCOCT
220IF INKEY(-114) THEN AVE =2:
PROCOCT
230IF INKEY(-115) THEN AVE =4:
PROCOCT
240IF INKEY(-67) THEN ?(MUSIC+
Time)=255:PROCREPLAY:CLS:GOTO90
250AN=1
260FORI=1TO19
270 IF INKEY(k(I)) AND AN<4 TH
EN PROCS(ot(I)):AN=AN+1
280NEXT
290IF FLAG Time =Time+2
300!(MUSIC+Time)=0
310IF Time>20000 THEN PROCREPL
AY
320UNTIL FALSE
330END
340DEFPROCtitles
350PRINT TAB(0,1);CHR$141;CHR$
130;"MUZAKKK";TAB(28,1);CHR$141;
CHR$130;"MUZAKKK"
360PRINT TAB(0,2);CHR$141;CHR$
130;"MUZAKKK";TAB(28,2);CHR$141;
CHR$130;"MUZAKKK"
370ENDPROC
380DEFPROCKEYS
390PRINT TAB(3,5);CHR$141;CHR$
129;"Q W  E R T Y U I O P"
400PRINT TAB(3,6);CHR$141;CHR$
129;"Q W  E R T Y U I O P"
410PRINTTAB(4,8);CHR$141;CHR$1
33;"A S D F G H J K L"
420PRINTTAB(4,9);CHR$141;CHR$1
33;"A S D F G H J K L"
430ENDPROC
440DEFPROCOCT
450IF AVE =0 THENTP$="LOW"
460IF AVE =2 THENTP$="MEDIUM"
470IF AVE =4 THENTP$="HIGH"
480PRINTTAB(8,15);CHR$141;CHR$
134;"OCTAVE - ";TP$
490PRINTTAB(8,16);CHR$141;CHR$
134;"OCTAVE - ";TP$
500ENDPROC
510DEFPROCS(N)
520 FLAG=-1
530SOUNDAN,1,AVE*16+N,1
540 ?(MUSIC+Time)=AVE*16+N
550?(MUSIC+Time+1)=AN
560 IFFLAG Time=Time+2
562ENDPROC
565!(MUSIC+Time)=0
566DEFPROCREPLAY
570PRINTTAB(13,24);"PLAYBACK";
580I=0:REPEAT
590 ot=?(MUSIC+I):AN=?(MUSIC+I
+1)
600IF AN>0 THEN SOUNDAN,1,ot,1
ELSE FOR H=1TO40:NEXT
610FORH=1TO40:NEXT
620I=I+2
630UNTIL ?(MUSIC+I)=255 OR I=6
000
640FORL=1TO2000:NEXT:ENDPROC
650DATA17,66,34,82,35,51,52,68
,36,84,69,85,54,70,38,71,55,87,5
6
>
```

RUNS ON A SPECTRUM

BY ROBERT SCHIFREEN

Spectraphone allows you to play tunes 'live' on your Spectrum. You can record the tune by linking the output from the computer's ear socket to the mike of the tape recorder. Alternatively, hold a microphone close to the machine.

When you type RUN, the instructions will be displayed. The top row of keys are the actual notes, starting from C. Originally the bottom note is middle C, but the whole row can be shifted up or down by one octave (seven notes) by pressing the C and V keys. The current octave chosen will be on the screen, where 0 is the starting position. Positive numbers are higher octaves and negative numbers are lower ones.

The duration of the note is also printed on the screen during use. It starts off at 0.1 seconds. Pressing the Z and X keys will halve or double the current duration.

Press Q to quit the program, which will also restore the POKES to their original values. These are used by the program to speed up the keyboard repeat. This means you can obtain a nice warbling note by setting dur. to 0.0125 and oct. to 2.

Maximum and minimum values (before the program crashes!) for duration are between .00078125 and 6.4, and for octave between −4 and 4.

```
10 REM music
20 REM c and vg April '84©
22 GO SUB 5000
30 REM
31 POKE 23561,3
32 POKE 23562,1
33 LET o=0
34 LET sf=1
35 DIM n(10)
37 LET d=.1
40 FOR x=1 TO 10
50 READ n(x)
60 NEXT x
65 GO TO 1018
70 DATA 16,0,2,4,5,7,9,11,12,1
4
80 PAUSE 0: LET a$=INKEY$
82 IF a$<"0" OR a$>"9" THEN GO
TO 1000
85 LET a=CODE a$-47
90 BEEP d,n(a)+o+sf-1
92 LET sf=1
95 POKE 23692,20
100 GO TO 80
200 STOP
1000 IF a$="z" THEN LET d=d/2
1005 IF a$="q" THEN POKE 23561,3
5: POKE 23562,5: STOP
1010 IF a$="x" THEN LET d=d+d
1012 IF a$="c" THEN LET o=o-12
1013 IF a$="v" THEN LET o=o+12
1014 IF a$="s" THEN LET sf=2
1016 IF a$="f" THEN LET sf=0
1018 PRINT AT 10,10;"
     "
1020 PRINT AT 10,10;"dur= ";d
1025 PRINT AT 8,10;"                  "
1030 PRINT AT 8,10;"oct= ";INT (
o/12)
2000 GO TO 80
5000 REM instr
5010 PRINT "
AM"                      MUSIC PROGR
5020 PRINT "
.."                      ...........
5025 PRINT
5030 PRINT "This program enables
 you to play"
5040 PRINT "simple tunes. The le
ngth of"
5050 PRINT "the note is variable
, as is"
5060 PRINT "the octave."
5215 PRINT
5260 PRINT "z - halve duration"
5270 PRINT "x - double it"
5280 PRINT "c - down 1 octave"
5290 PRINT "v - up 1 octave"
5300 PRINT "q - quit program"
5310 PRINT "s - sharpen next not
es"
5320 PRINT "f - flatten next not
e"
5400 PRINT
5500 PRINT "top row of keys is t
he notes"
5510 PRINT "starting at C"
5600 PRINT
6000 PRINT "      press any key to
start": PAUSE 0: CLS : RETURN
7000 RETURN
```

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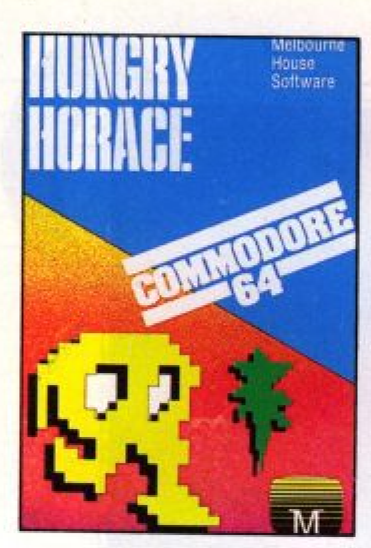
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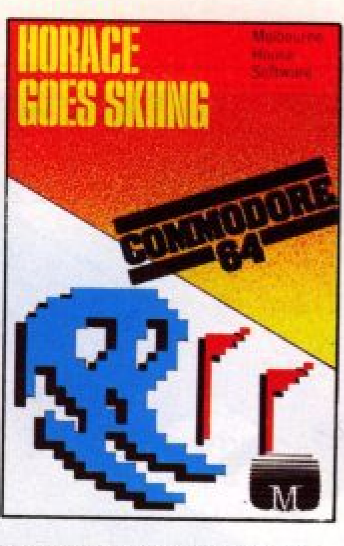
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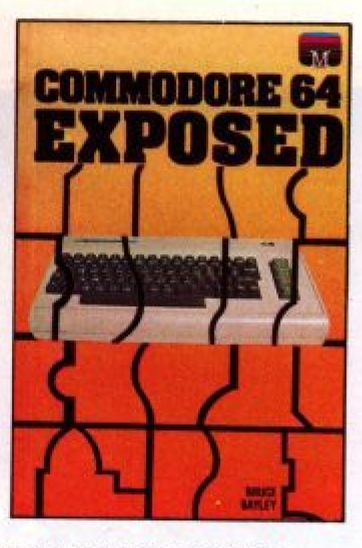
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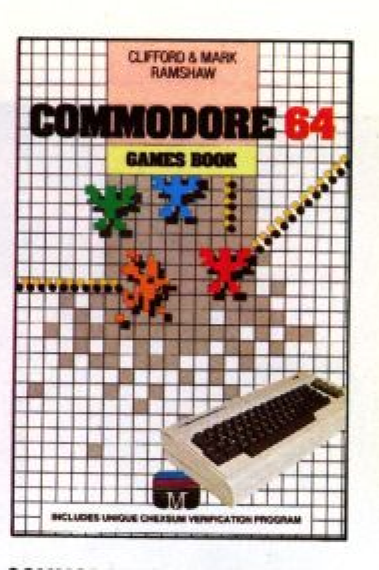
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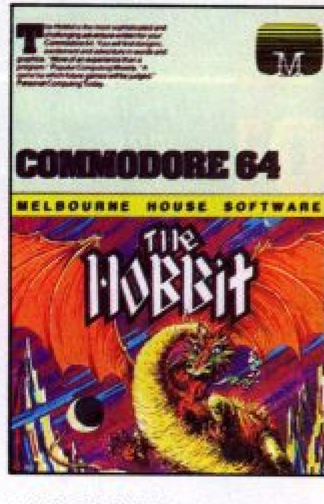
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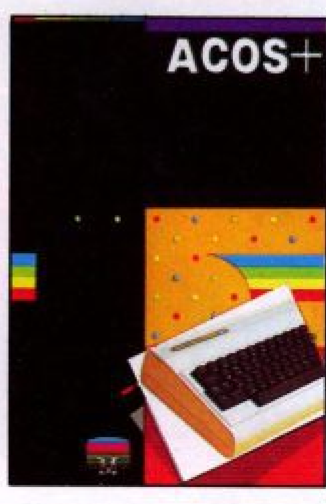
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All versions of 'The Hobbit' are identical with regard to the adventure program. Due to memory limitations, BBC cassette version does not include graphics.

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SOUND AND VISION

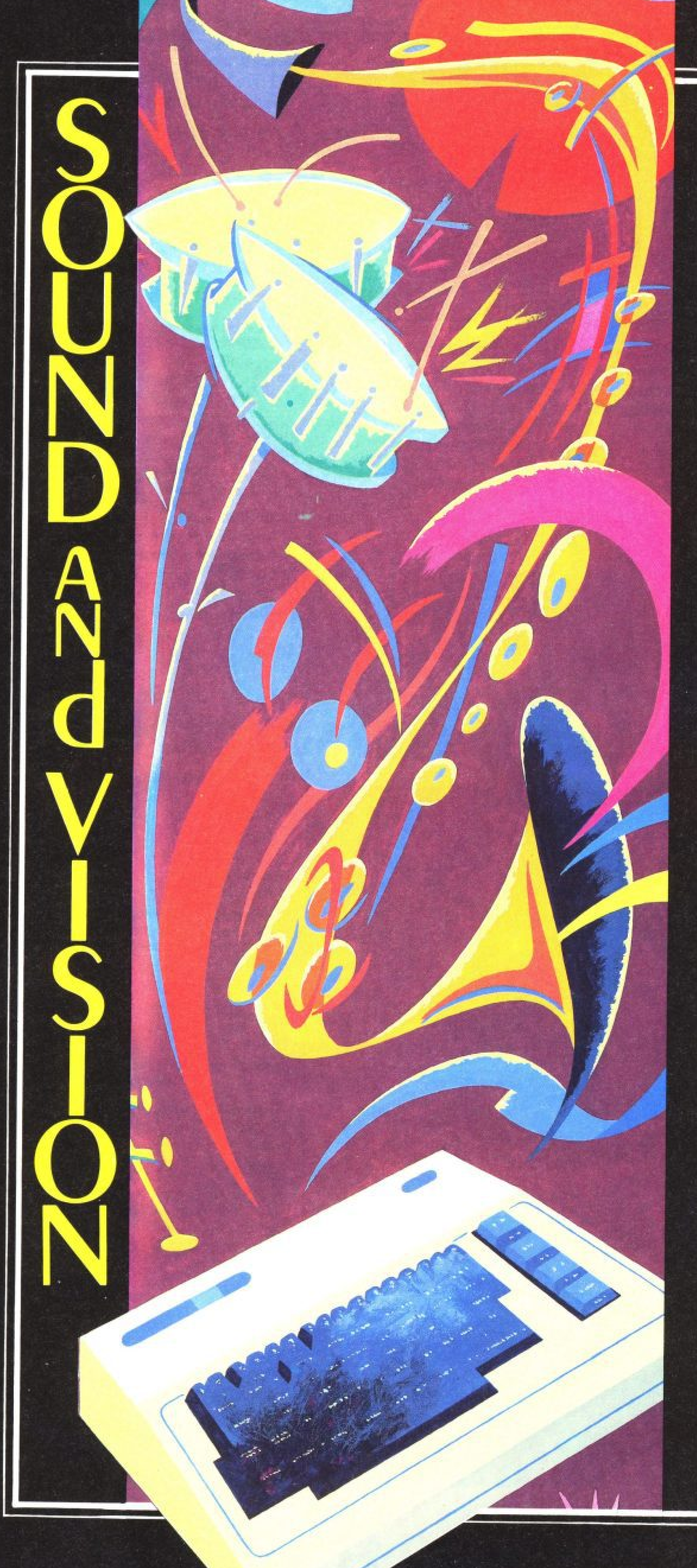


Illustration: Micky Finn

Try to imagine a disco without a light show. You can't can you! How about a Pink Floyd concert without all the lasers and other visuals. Totally impossible! Well for all these years you've been sitting at home playing your records or tapes and probably staring vacantly at the wallpaper or the latest pop pin-up posters from Smash Hits. *You can change that immediately by simply programming in your very own Sound to Graphics program.* Colin Holgate, *graphics expert with the band called* Mainframe, *has come up with some programs which will transform the way you listen to your record collection.*

In order to create some graphics that respond to any music, rather than graphics synchronised to just one song, a process similar to normal sound to light methods you see in action at your local disco has to be adapted for your micro.

Usually sound is fed into a box of tricks, its frequency worked out and something pretty happens.

With a computer, the sound is fed into the cassette input, the software works out a value related to the input frequency which can then be used as a variable in a graphics routine.

In the programs on the following pages, the values taken from the cassette input control create kaleidoscopic patterns or a "spectrum analyser" graph-like effect.

Machine code must be used in order to read the sound input fast enough to reach an accurate pitch-related value. On many current home computers, the incoming sound has the effect of setting — or not setting — a single bit in a particular byte or set of bytes, depending on whether the signal is above or below a certain level.

For example, bit 7 of location C060 (49248 decimal) in the Apple II is set to 1 if the input is high. Likewise bit 6 of location 7FFE (32766 decimal) in the Spectrum works the same way. A sine wave signal coming into the computer will appear as a sequence of ones and zeros.

By timing how long it takes for one incoming signal to change from one state to the other, we can get an idea of its frequency. The timing value could control colour, position or length of a drawn line in your graphics routine — or whatever you wish.

For BBC or Electron owners, things are a little different when it comes to the cassette input. Both these micros have dedicated chips that present the computer with complete bytes when they read from the cassette. This makes working out the frequency tricky at best.

However, a limited affect can be achieved by simply seeing if there is a sound or not. The program for these computers printed here does something

along those lines. Even the originator of the program isn't sure exactly how it works — so you'll just have to sit back and enjoy the effects!

Each of the programs require a sound source at the cassette input. This can easily be done, the only problem being that in most cases you won't be able to hear the music! But there are two ways around this.

Connect your computer to a headphone output on your system that doesn't cut off sound from the amplifier. To do this, you will probably need a simple jack plug adaptor for your computer lead. These are available from all good hi-fi stores.

If your portable cassette player has a built in microphone, connect it to the computer as usual, then place it near a speaker with the record/play/pause buttons pushed down. Please remember that connecting a speaker output to your computer is definitely NOT a good idea.

These programs will react to any outside sound source, not just music. Have fun playing around with them!

Since the BBC/Electron program was written, Basic 2 has appeared for the BBC B. With Basic 2, the expressions M%=?FE04+?&FE09 has a different effect to the one intended. For safety, if you have a BBC B, change this part of line 240 to read M%=?&FE09. Likewise change line 260 to read N%=?&FE09 etc.

FOR THE APPLE II

```
0E80- 34 08 0F 0B 11 33 55 77
0E88- 99 BB DD FF 22 44 66 88
0E90- AA CC EE 11 33 55 77 99
0E98- BB DD FF 22 44 66 88 AA
0EA0- CC EE 11 33 00 00 00 00
0EA8- 00 00 00 00 00 00 00 00
0EB0- 00 00 00 00 00 00 00 00
0EB8- 00 00 00 00 00 00 00 00
0EC0- 00 00 00 00 02 02 01 01
0EC8- 01 01 01 01 02 02 02 02
0ED0- 03 03 03 03 04 04 04 04
0ED8- 06 06 06 06 08 08 08 08
0EE0- 08 08 08 08 A2 00 AD 60
0EE8- C0 85 02 E8 F0 18 AD 60
0EF0- C0 45 02 10 F6 A2 00 AD
0EF8- 60 C0 85 02 E8 F0 07 AD
0F00- 60 C0 45 02 10 F6 8A 60
0F08- 20 58 FC 2C 56 C0 2C 52
0F10- C0 2C 50 C0 20 D1 10 AD
0F18- 83 0E 85 FD 2C 00 C0 10
0F20- 16 2C 10 C0 A2 1F A9 00
0F28- 9D A4 0E CA 10 FA EA EA
0F30- EA EA EA EA 4C B0 0F 20
0F38- E4 0E F0 3C 4A 4A 4A AA
0F40- 85 FE A9 1F 38 E5 FE 18
0F48- 69 04 85 FE BD 84 0E 85
0F50- 30 BD C4 0E 85 FC BD A4
0F58- 0E C9 30 F0 1B FE A4 0E
0F60- 85 FF A9 2F 38 E5 FF A4
0F68- FE 20 00 F8 C6 FC F0 08
0F70- A0 00 88 D0 FD 4C 56 0F
0F78- C6 FD D0 A0 A9 00 85 30
0F80- A2 00 A0 23 BD A4 0E F0
0F88- 0D DE A4 0E 85 FF A9 30
0F90- 38 E5 FF 20 00 F8 88 E8
0F98- E0 20 D0 E8 AD 83 0E 85
0FA0- FD 4C 1C 0F 2C 52 C0 2C
0FA8- 50 C0 2C 56 C0 2C 54 C0
0FB0- A9 FF 85 FA 20 D1 10 A9
0FB8- 1E 85 07 A9 00 85 06 A0
0FC0- 00 91 06 C8 D0 FB 20 E4
0FC8- 0E 86 08 20 E4 0E 86 09
0FD0- 4C E9 0F AD 60 C0 29 80
0FD8- 85 0A A2 00 AD 60 C0 E8
0FE0- F0 06 29 80 C5 0A F0 F4
0FE8- 60 A5 08 4A 4A 4A C9 14
0FF0- 30 02 A9 00 85 08 A5 09
0FF8- 4A 4A 4A C9 14 30 02 A9
1000- 00 85 09 A0 00 A9 13 38
1008- E5 08 91 06 A9 13 18 65
1010- 08 C8 91 06 A9 13 38 E5
1018- 09 C8 91 06 A9 13 18 65
1020- 09 C8 91 06 A5 08 F0 0E
1028- EA EA EA E6 F9 B1 F9 EA
1030- 4A 4A 4A 4A F0 F2 20 64
1038- F8 20 63 10 A5 06 18 69
1040- B0 85 06 A9 00 20 64 F8
1048- 20 63 10 A5 06 38 E9 AC
1050- 85 06 2C 00 C0 30 06 2C
1058- 10 C0 4C C6 0F 2C 10 C0
1060- 4C 14 0F A0 00 B1 06 85
1068- 0A A0 02 B1 06 A4 0A 18
1070- 69 04 20 00 F8 A0 03 B1
1078- 06 A4 0A 18 69 04 48 20
1080- 00 F8 A0 01 B1 06 A8 68
1088- 20 00 F8 84 0A A0 02 B1
1090- 06 A4 0A 18 69 04 48 20
1098- 00 F8 68 38 E9 04 85 0A
10A0- A0 00 B1 06 A4 0A 18 69
10A8- 04 20 00 F8 A0 01 B1 06
10B0- A4 0A 18 69 04 48 20 00
10B8- F8 A0 03 B1 06 A8 68 20
10C0- 00 F8 84 0A A0 00 B1 06
10C8- A4 0A 18 69 04 20 00 F8
10D0- 60 A9 04 85 07 A9 00 85
10D8- 06 A0 00 A9 00 91 06 C8
10E0- D0 FB E6 07 A5 07 C9 08
10E8- D0 F1 60 00 00 00 00 00
```

FOR THE BBC & ELECTRON

```
10 MODE 1
20 PRINT
30 COLOUR 2
40 PRINT "Sound to Graphics program."
50 PRINT
60 PRINT "For BBC Model B and Acorn Electron."
70 PRINT:PRINT:PRINT
80 COLOUR 3
90 PRINT "This program requires any sound source":PRINT:PRINT "(preferably mu
sic) to be connected to":PRINT:PRINT "the cassette input on this computer."
100 PRINT:PRINT:COLOUR 1:PRINT "Adjust the volume until the input level":PRINT
:PRINT "is about the same as is required for ":PRINT:PRINT "loading programs. "
110 COLOUR 3
120 PRINT:PRINT:PRINT "Adjustment of the volume control will":PRINT:PRINT "var
y the graphic's response."
130 PRINT:PRINT:PRINT "To exit the display press 'Escape'."
140 PRINT:PRINT:PRINT:PRINT "PRESS RETURN TO CONTINUE.";
150 A = GET
160 ONERROR MODE7:END
170 MODE 2
180 FOR L = 0 TO 15:VDU19,L,0,0,0,0:NEXT
190 FOR L% = 0 TO 638:COLOUR 128+ABS(10-L% MOD 20)+ABS(16-L% DIV 20):PRINT;" "
;:NEXT
200 VDU23;8202;0;0;0
210 L% = ?&FE10:L% = ?&FE11
220 REPEAT
230 VDU19,L%,0,0,0,0
240 P% = 0:REPEAT P% = P% + 1:M% = ?&FE04 + ?&FE09:UNTIL (P% = 100) OR (M% <>
N%)
250 IF P% = 100 THEN FOR P% = 0 TO 15:VDU19,P%,0,0,0,0,:NEXT:GOTO 240
260 N% = ?&FE04 + ?&FE09:VDU19,L% + N% DIV 64,N% MOD 8,0,0,0
270 L% = (L% + N%)MOD 15
280 UNTIL FALSE
```

APPLE II: CONT'D

Program notes for Apple II.

To save both parts of the listing into one file, type:
CALL—151
[RETURN]
AF:EB 10 [RETURN]
3DOG [RETURN]
SAVE SOUND TO GRAPHICS [RETURN]
(Just SAVE for cassette systems).

Lines 10 to 80 check the data and can be deleted once you have a working program.

```
10  REM  DATA CHECKER
20  FOR A = 3709 TO 4330
30  B = B +  PEEK (A)
40  NEXT
50  C = 60790 - B
60  IF C = 0 THEN 90
70  TEXT : HOME : PRINT "THERE IS
      AT LEAST ONE ERROR IN THE D
     ATA."
80  END
90  TEXT : HOME
100   PRINT "SOUND TO GRAPHICS PRO
     GRAM."
110   PRINT "FOR APPLE II."
120   PRINT : PRINT : PRINT "THIS
     PROGRAM REQUIRES A SOUND SOU
     RCE"
130   PRINT : PRINT "(PREFERABLY M
     USIC) TO BE CONNECTED TO"
140   PRINT : PRINT "THE CASSETTE
     INPUT ON THIS COMPUTER."
150   PRINT : PRINT : PRINT "ADJUS
     T THE VOLUME UNTIL THE INPUT
      LEVEL"
160   PRINT : PRINT "IS ABOUT THE
     SAME AS IS REQUIRED FOR "
170   PRINT : PRINT "LOADING PROGR
     AMS."
180   PRINT : PRINT : PRINT "ADJUS
     TMENT OF THE VOLUME CONTROL
     WILL"
190   PRINT : PRINT "VARY THE GRAP
     HIC'S RESPONSE."
200   PRINT : PRINT : PRINT "PRESS
      RETURN TO BEGIN. ";: GET A$
     : CALL 4004
```



FOR THE SPECTRUM

```
   5 CLEAR 30999
  10 LET a=31000: LET b=0: LET c
=0: LET xn=0: LET xo=0: LET b$="
"
  20 PRINT "Sound to Graphics:-
ZX Spectrum"
  30 PRINT : PRINT "Connect a mu
sic source to the"
  40 PRINT "EAR socket on this c
omputer."
  50 PRINT : PRINT "Adjust the v
olume until it is"
  60 PRINT "the same as for load
ing programs"
  70 PRINT : PRINT "Adjustment o
f the volume control"
  80 PRINT "will vary the respon
se."
  90 PRINT : PRINT "Wait until t
he dots stop, then"
 100 PRINT : PRINT "Press ENTER
to start."
 200 FOR n=1 TO 7
 210 READ b$
 220 LET xn=xn+1
 230 IF xn>LEN b$ THEN GO SUB 30
0: LET xn=0: LET xo=0: NEXT n: G
O TO 400
 240 IF b$(xn)="," THEN GO SUB 3
00
 260 GO TO 220
 300 LET b=VAL (b$(xo+1 TO xn-1)
)
 310 POKE a,b
 320 LET c=c+b
 330 LET a=a+1: IF a/20=INT (a/2
0) THEN PRINT ".";
 340 LET xo=xn
 350 RETURN
 400 IF c=29890 THEN GO TO 450
 410 PRINT : PRINT "There is a p
roblem with the data"
 420 PRINT : PRINT "Please check
 for errors."
 430 STOP
 440 IF INKEY$<>"" THEN GO TO 44
0
 450 INPUT g$
 460 BORDER 0: PAPER 0: CLS : LE
T x=USR 31000
 470 BORDER 7: PAPER 7: CLS :
 480 PRINT "Type GO TO 460 to re
start"
 490 STOP
1000 DATA "195,101,121,0,0,0,0,0
,32,15,15,15,15,6,0,30,127,123,2
19,254,79,5,40,8,123,219,254,169
,203,119,40,245,120,254,0,201,25
4,4,216,254,28,208,214,4,38,0,20
3,39,203"
1100 DATA "20,203,39,203,20,203,
39,203,20,203,39,203,20,203,39,2
03,20,131,111,62,88,140,103,58,3
1,121,119,201,33,0,0,34,27,121,3
4,29,121,62,127,219,254,203,71,2
00,205,37"
1200 DATA "121,40,72,203,63,203,
63,203,63,203,63,33,74,122,237,7
5,27,121,9,119,205,37,121,40,50,
203,63,203,63,203,63,203,63,33,7
4,123,237,75,27,121,9,119,58,32,
121,198,8"
1300 DATA "230,56,50,32,121,50,3
1,121,205,219,121,12,237,67,27,1
21,58,29,121,198,32,79,58,27,121
,185,32,172,58,29,121,79,58,27,1
21,185,40"
1400 DATA "162,175,50,31,121,205
,219,121,12,237,67,29,121,195,11
0,121,33,74,122,9,126,50,33,121,
95,62,30,147,50,35,121,33,74,123
,9,126,50,34,121,95,62,30,147,50
,36,121,58,33,121,95,58,34,121,2
05,60,121"
1500 DATA "58,35,121,95,58,34,12
1,205,60,121,58,33,121,95,58,36,
121,205,60,121,58,35,121,95,58,3
6,121,205,60,121,58,34,121,95,58
,33,121,205,60,121,58,36,121,95,
58,33,121,205,60,121,58,34,121,9
5,58,35,121"
1600 DATA "205,60,121,58,36,121,
95,58,35,121,205,60,121,201"
```

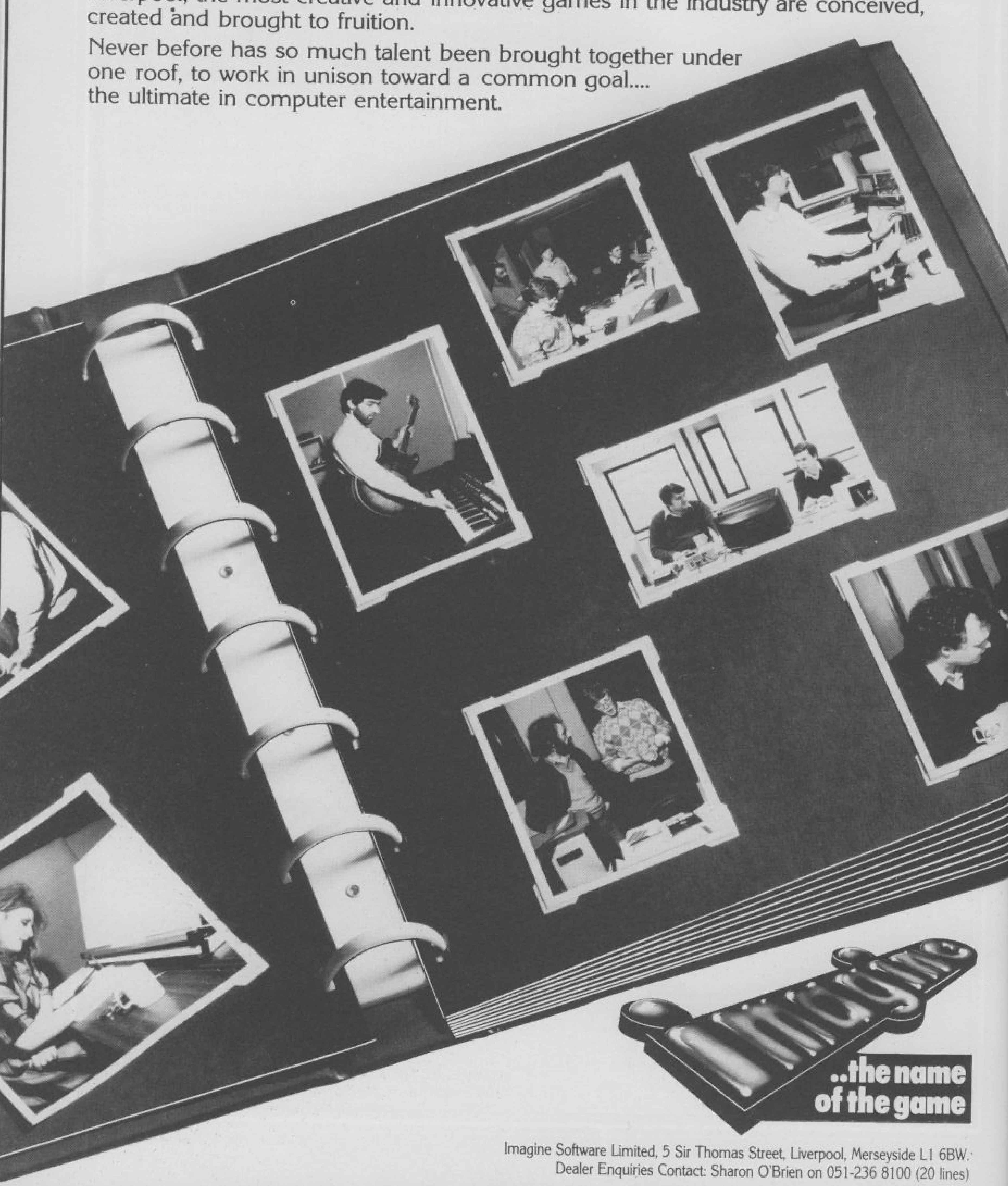
If you don't want to spend time keying-in these listings, the programs can be found on the B-side of the *Mainframe* single, *Talk to Me,* available from MC2 Music, 24 Missden Drive, Hemel Hempstead, Hertfordshire.

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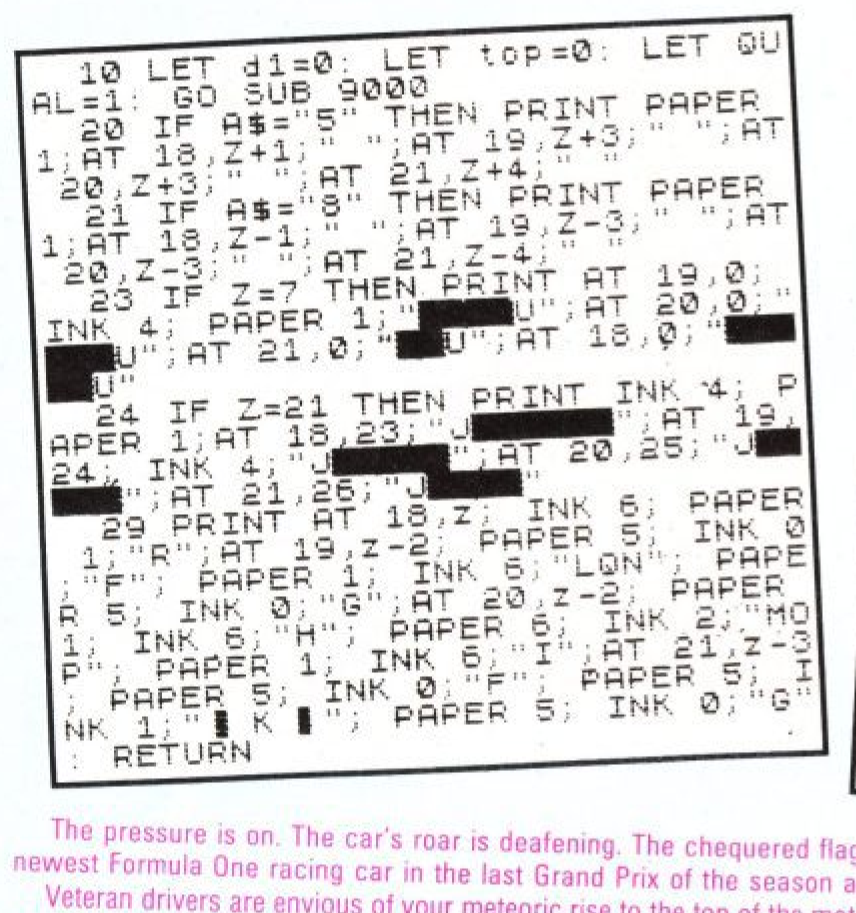
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```
  10 LET d1=0: LET top=0: LET QU
AL=1: GO SUB 9000
  20 IF A$="5" THEN PRINT PAPER
1;AT 18,Z+1;" ";AT 19,Z+3;" ";AT
 20,Z+3;" ";AT 21,Z+4;" "
  21 IF A$="8" THEN PRINT PAPER
1;AT 18,Z-1;" ";AT 19,Z-3;" ";AT
 20,Z-3;" ";AT 21,Z-4;" "
  23 IF Z=7 THEN PRINT AT 19,0;
INK 4; PAPER 1;"[redacted]U";AT 20,0;"[redacted]
[redacted]U";AT 21,0;"[redacted]U";AT 18,0;"
[redacted]U"
  24 IF Z=21 THEN PRINT INK 4; P
APER 1;AT 18,23;"J[redacted]";AT 19,
24; INK 4;"J[redacted]";AT 20,25;"J[redacted]
[redacted]";AT 21,26;"J[redacted]"
  29 PRINT AT 18,Z; INK 6; PAPER
 1;"R";AT 19,z-2; PAPER 5; INK 0
;"F"; PAPER 1; INK 6;"LQN"; PAPE
R 5; INK 0;"G";AT 20,z-2; PAPER
1; INK 6;"H"; PAPER 6; INK 2;"MO
P"; PAPER 1; INK 6;"I";AT 21,z-3
; PAPER 5; INK 0;"F"; PAPER 5; I
NK 1;"[redacted]K[redacted]"; PAPER 5; INK 0;"G"
: RETURN
```

```
  30 LET A$=INKEY$
  31 LET z=z+(A$="8")-(A$="5")
  32 IF POS>8 AND pos<13 AND ((Z
-3<=11+(QOS*8)+7 AND Z+3>11+(QOS
*8)+7) OR (Z+3>11+(QOS*8) AND Z-
3<11+(QOS*8))) THEN GO TO 8000
  33 BEEP .001,20
  34 PRINT AT 3,7; INK 7;score
  35 PRINT AT 3,14; INT ((256*PEE
K 23673+PEEK 23672)/50)
  36 IF l=0 AND (score=100 OR sc
ore=200 OR score=300 OR score=40
0) THEN BEEP 1,40: LET l=1: LET
d=(256*PEEK 23673+PEEK 23672)/50
: PRINT INK 0; PAPER 5;AT 1,26;I
NT (d-D1);"·";INT ((((d-D1)-INT
(d-D1))*100)*3/5): LET D1=D1+D:
GO TO 7000
  37 IF (score-50)/100=INT ((sco
re-50)/100) THEN LET l=0
  38 GO SUB 59
  39 FOR s=1 TO sp: NEXT s: PRIN
T AT 3,26; INK 7;500-(sp*10);"km
"
  40 IF z<6 OR z>22 THEN LET sp=
sp+10
```

The pressure is on. The car's roar is deafening. The chequered flag is raised and the race has begun. You are driving the world's newest Formula One racing car in the last Grand Prix of the season and the World Championship lies within your grasp.

Veteran drivers are envious of your meteoric rise to the top of the motor racing sport and will stop at nothing to remove you and your car — Fire Flash 1 — from the circuit FOREVER!

First you must qualify for the race in a time trial lap. The lap must be completed in less than 72 seconds or you'll miss the starting grid and the chance to claim the championship trophy.

The Grand Prix is run over three laps of the famous Monaco circuit. You must overtake all the other competitors but avoid running into the grass vergest which slow the car, giving the other racers a chance to ram Fire Flash 1 from behind.

The screen displays a lap-completed counter, a hi-score feature and a lap timer, as well as a view from the driver's seat. The car is controlled using the 5 and 8 key and is compatible with cursor-controlled joysticks. Drive at your peril and remember — this game doesn't include a seat belt!



BY GARY WHITEHEAD

RUNS ON A 48K SPECTRUM

```
  41 LET sp=sp-(sp>0)
  43 IF SP>50 THEN GO TO 8000
  49 PRINT AT 19,z-2; PAPER 5; I
NK 0;"S";AT 19,z+2;"T";AT 21,z-3
;"S";AT 21,z+3;"T"
  50 GO SUB 20: GO TO 30
  59 IF POS=0 THEN PRINT PAPER 1
; INK 6;AT 10,14;"A": LET POS=1:
 LET SCORE=SCORE+10: RETURN
  60 IF pos=1 THEN GO TO 75
  61 IF pos=2 THEN GO TO 80
  63 IF pos=3 THEN GO TO 90
  64 IF pos=4 THEN GO TO 100
  65 IF pos=5 THEN GO TO 110
  66 IF POS=6 THEN GO TO 120
  67 IF POS=7 THEN GO TO 130
  68 IF POS=8 THEN GO TO 140
  69 IF POS=9 THEN GO TO 150
  70 IF POS=10 THEN GO TO 160
  71 IF POS=11 THEN GO TO 170
  72 IF POS=12 THEN GO TO 180
  73 IF POS=13 THEN GO TO 190
  75 PRINT AT 10,14; PAPER 1;" "
: LET qos=(RND*2)-1: PRINT AT 11
,14+qos; INK 6; PAPER 1;"A": LET
 POS=2: RETURN
  80 PRINT AT 11,14+QOS; INK 1;
PAPER 1;" ": LET POS=3: PRINT AT
 12,14+(QOS*2); INK 6; PAPER 1;"
A": RETURN
  90 PRINT AT 12,14+(QOS*2); INK
 1; PAPER 1;" ": LET POS=4: PRIN
T AT 13,14+(QOS*2); INK 6; PAPER
 1;"BC";AT 14,14+(QOS*2);"DE": R
ETURN
 100 PRINT AT 13,14+(QOS*2); INK
 1; PAPER 1;"  ";AT 14,14+(QOS*2
);"  ": LET POS=5: PRINT AT 14,1
4+(QOS*3); INK 6; PAPER 1;"BC";A
T 15,14+(QOS*3);"DE": RETURN
 110 PRINT AT 14,14+(QOS*3); PAP
ER 1; INK 1;"  ";AT 15,14+(QOS*3
);"  ": LET POS=6: PRINT AT 15,1
4+(QOS*4); PAPER 1; INK 6;"BC";A
T 16,14+(QOS*4); PAPER 1; INK 6;
"DE": RETURN
 120 PRINT AT 15,14+(QOS*4); PAP
ER 1; INK 1;"  ";AT 16,14+(QOS*4
);"  ": LET POS=7: PRINT AT 16,1
4+(QOS*5); PAPER 1; INK 6;"BC";A
T 17,14+(QOS*5); PAPER 1; INK 6;
"DE": RETURN
 130 PRINT AT 16,14+(QOS*5); PAP
ER 1; INK 1;"  ";AT 17,14+(QOS*5
);"  ": LET POS=8: PRINT AT 17,1
4+(QOS*6); PAPER 1; INK 6;"BC";A
T 18,14+(QOS*6); PAPER 1; INK 6;
"DE": RETURN
 140 PRINT AT 17,14+(QOS*6); PAP
ER 1; INK 1;"  ";AT 18,14+(QOS*6
);"  ": LET POS=9: PRINT AT 17,1
3+(QOS*6); PAPER 1; INK 6;"LQN";
AT 18,12+(QOS*6); PAPER 1; INK 6
;"H"; PAPER 6; INK 1;"MOP"; PAPE
R 1; INK 6;"I";AT 19,11+(QOS*6);
 PAPER 1; INK 0;"F"; PAPER 6; IN
K 1;"▞ K ▚"; PAPER 1; INK 0;"G":
 RETURN
 150 PRINT AT 17,13+(QOS*6); PAP
ER 1; INK 1;"   ";AT 18,12+(QOS*
6);"     ";AT 19,11+(qos*6);"
   ": LET POS=10: PRINT AT 18,1
3+(QOS*7); PAPER 1; INK 6;"LQN";
AT 19,12+(QOS*7); PAPER 1; INK 6
;"H"; PAPER 6; INK 1;"MOP"; PAPE
R 1; INK 6;"I";AT 20,11+(QOS*7);
 PAPER 1; INK 0;"F"; PAPER 6; IN
K 1;"▞ K ▚"; PAPER 1; INK 0;"G":
 RETURN
 160 PRINT AT 18,13+(QOS*7); PAP
ER 1; INK 1;"   ";AT 19,12+(QOS*
7);"     ";AT 20,11+(QOS*7); PAP
ER 1; INK 1;"       ": LET POS=1
1: PRINT AT 19,13+(QOS*8); PAPER
 1; INK 6;"LQN";AT 20,12+(QOS*8)
; PAPER 1; INK 6;"H"; PAPER 6; I
NK 1;"MOP"; PAPER 1; INK 6;"I";A
T 21,11+(QOS*8); PAPER 1; INK 0;
"F"; PAPER 6; INK 1;"▞ K ▚"; PAP
ER 1; INK 0;"G": RETURN
 170 LET POS=12: PRINT AT 19,13+
(QOS*8); PAPER 1; INK 1;"   ";AT
 20,12+(QOS*8); PAPER 1; INK 1;"
```

```
   ";AT 21,11+(QOS*8); PAPER 1
; INK 1;"        ": PRINT AT 21,1
3+(QOS*9); PAPER 1; INK 6;"LQN";
AT 20,14+(QOS*9);"R": RETURN
 180 LET POS=13: PRINT AT 20,14+
(QOS*9); PAPER 1; INK 1;" ";AT 2
1,13+(QOS*9); INK 6; PAPER 1;" R
": RETURN
 190 LET POS=0: PRINT AT 21,14+(
QOS*9); PAPER 1; INK 1;" ": RETU
RN
6000 LET d1=0: PLOT 0,100: DRAW
42,-12,-1: LET qual=2: FOR A=1 T
O 4: PRINT PAPER 7; INK 0;AT A+1
0,5;"O": NEXT A: FOR A=1 TO 300:
 NEXT A
6010 FOR A=1 TO 3: PRINT PAPER 2
; INK 0;AT A+10,5;"O": BEEP .2,2
0: FOR B=1 TO 100: NEXT B: NEXT
A
6020 PRINT PAPER 4; INK 0;AT 14,
5;"O": BEEP 1,32
6030 FOR A=1 TO 4: PRINT PAPER 4
; INK 4;AT A+10,5;" ": NEXT A: P
LOT OVER 1;0,100: DRAW OVER 1;42
,-12,-1
6040 POKE 23672,0: POKE 23673,0
6050 RETURN
7000 IF qual=2 THEN GO TO 7100
7010 IF d<74 THEN PRINT AT 6,11;
 INK 2; PAPER 5; FLASH 1;"WELL D
ONE": LET z$="PREPARE TO RACE!!!
"
7020 IF D<74 THEN LET QUAL=0: GO
 TO 9001
7030 PRINT AT 6,10; INK 2; PAPER
 5; FLASH 1;"BAD LUCK !!": STOP
7100 IF SCORE=400 THEN GO SUB 93
00
7110 IF SCORE=400 THEN PRINT AT
2,0;"YOU HAVE COMPLETED THE RACE
 AND YOU HAVE SCORED ";SCORE*(10
00-D): IF score*(1000-d)>top THE
N LET top=score*(1000-d)
7115 IF score=400 THEN PAUSE 0:
PAUSE 0: PAUSE 0: GO TO 9000
7120 GO TO 37
8010 LET SCORE=SCORE-10: PAPER 6
: INK 2: FOR a=1 TO 14: INVERSE
((a/2)=INT (a/2))
8020 BEEP .05,-20: PRINT AT 18,z
;"█";AT 19,z-1;"██";AT 20,z-2
;"██";AT 21,z-3;"████":
BEEP .05,-30: NEXT a
8030 LET start=0: GO TO 9001
8990 GO TO 9999
9000 LET l=1: LET d=65535: GO SU
B 9300: LET score=0: LET start=1
9001 INVERSE 0: RESTORE : LET sp
=0: LET QOS=0: LET POS=0: LET z=
15: GO SUB 9900: PAPER 0: INK 0:
 FLASH 0: BORDER 0: BRIGHT 0: CL
S
9010 PAPER 5: INK 7: FOR a=1 TO
8: PRINT "
            ": NEXT a
9020 INK 1: LET a$="  _CAC  _CBA
ABCBCBABBC_  _C C_  ": PRINT a$
9030 INK 3: PAPER 1: LET b$="___
CACBACBACBCABCACBACABCBA______":
PRINT b$
9040 PAPER 4: FOR a=1 TO 12: PRI
NT "
     ": NEXT a
9050 INK 1: PRINT AT 10,13;"D█E"
;AT 11,12;"D███E";AT 12,11;"D███
██E";AT 13,10;"D███████E";AT 14,
9;"D█████████E";AT 15,8;"D██████
█████E";AT 16,7;"D█████████████E
";AT 17,6;"D███████████████E"
9060 PRINT AT 18,5;"D███████████
██████E";AT 19,4;"D█████████████
██████E";AT 20,3;"D█████████████
████████E";AT 21,2;"D███████████
████████████E"
9070 GO SUB 20
```

```
9080 RESTORE 9950: FOR a=0 TO 39
: READ b: POKE USR "a"+a,b: NEXT
 a
9090 GO SUB 9200
9100 GO TO 30
9200 PAPER 5: INK 7: PRINT AT 1,
13;"TIME";AT 1,1; INK 2;" TOP "
;top;AT 1,22; INK 4;"LAP ";d1;AT
 3,1; INK 7;"SCORE";AT 3,20;"SPE
ED"
9201 IF start=0 THEN GO TO 9240
9209 IF QUAL=1 THEN LET Z$="PREP
ARE TO QUALIFY"
9210 FOR A=1 TO 18: PAUSE 5: PRI
NT AT 6,30-A; PAPER 5; INK 0;"U<
"; PAPER 7; INK 0;Z$( TO A): NEX
T A
9220 FOR A=0 TO 10: PAUSE 5: PRI
NT AT 6,10-A; PAPER 5; INK 0;"U<
"; PAPER 7; INK 0;Z$; PAPER 5;"
 ": NEXT A
9230 PRINT AT 6,0; PAPER 5; INK
0;"<"; PAPER 7; INK 0;Z$: FOR A=
1 TO 19: PAUSE 5: PRINT AT 6,0;
PAPER 7; INK 0;Z$(A TO ); PAPER
5;" ": NEXT A
9240 RESTORE 9998: FOR A=0 TO 7:
 READ B: POKE USR "U"+A,B: NEXT
A
9290 IF start=1 THEN POKE 23672,
0: POKE 23673,0: POKE 23674,0
9291 IF QUAL=0 THEN GO SUB 6000
9295 RETURN
9300 PAPER 7: INK 0: BORDER 0: C
LS : FOR B=1 TO 6 STEP 2: PRINT
AT B+5,10;"█████████";AT B+6,10
;"█████████": NEXT B: PRINT AT
7,13; OVER 1;"POLE";AT 10,11;"PO
SITION"
9305 PRINT AT 13,13;"Program,au
dio ";AT 14,13;"and visual by";A
T 15,13;"G.Whitehead"
9310 PLOT 80,28: DRAW 0,100: DRA
W 80,0: DRAW 0,-48: DRAW -80,0
9320 BEEP .8,10: BEEP .2,10: BEE
P .2,10: BEEP .8,17: BEEP .2,10:
 BEEP .2,17: BEEP .2,20: BEEP 1,
19: BEEP 1.2,17
9330 RETURN
9900 FOR a=0 TO 167: READ b: POK
E USR "a"+a,b: NEXT a
9910 DATA 0,0,0,8,28,62+128,255,
255,0,0,0,0,50,247,255,255,0,0,0
,0,0,36,254,255,1,3,7,15,31,63,1
27,255,128,192,224,240,248,252,2
54,255
9920 DATA 255,73,127,127,127,127
,127,255,255,146,254,254,254,254
,254,255,1,3,3,3,3,7,254,255,128
,192,192,192,192,224,127,255,127
,63,31,15,7,3,1,0,60,60,60,60,60
,60,60,60,0,0,0,0,15,31,127,255
9930 DATA 0,96,96,96,96,96,96,25
5,0,0,0,0,240,248,254,255,0,0,0,
0,0,0,60,255,0,6,6,6,6,6,6,255,6
6,66,129,129,255,255,255,255,0,0
,0,0,0,0,24,36
9940 DATA 255,127,73,127,127,127
,127,255,255,254,146,254,254,254
,254,255
9945 DATA 0,49,121,255,255,121,4
9,0
9950 DATA 0,24,60,24,60,189,255,
189
9960 DATA 0,0,0,0,1,26,31,7,0,0,
0,0,128,88,248,224
9970 DATA 7,7,15,223,222,246,214
,214,224,224,240,251,123,111,107
,107
9980 DATA 255,254,252,248,240,22
4,192,128
9990 RETURN
9998 DATA 254,252,248,240,224,19
2,128,0
9999 INVERSE 0: PAPER 7: BORDER
7: INK 0
```


Mystery of Munroe Manor
available
late February
Mystery of Munroe Manor You find yourself wandering the misty moors when you come across the gates to Munroe Manor. Old man Bastow has disappeared but reports persist of his wealth hidden somewhere in the manor . . . The baying of hounds from within the grounds bring to mind tales of wandering ghosts and hidden traps. You, our intrepid friend, are about to attempt to solve this mystery . . . and live! A full graphic adventure containing 70 different screens displaying each location or action during the game.
CBM 64 – £8.50
SEVERN SOFTWARE
MORIA
FOR 16K/48K SPECTRUM
Moria A challenging adventure game set in the mines of Moria. You'll have to try and survive encounters with the monsters of middle-earth while trying to locate Durins Ring. The Wizard and Trader may help or hinder you on your journey to find and open the hidden doors to freedom – a game that will really test your character and staying power.
Oric Author – Adrian Sheppard
Spectrum Author – Mike Howard
Oric-1 48K – £6.95
Oric Atmos – £6.95
Spectrum 16/48K – £4.95
ARCADE ACTION
DINKY KONG
FOR ORIC 48K
Dinky Kong Attempt to rescue your lovely girlfriend who is held captive by the angry gorilla. As you climb the connecting ladders and move along the gangways, the gorilla will be throwing barrels and fireballs at you! The only way to reach her is to leap over these obstacles and progress to the top. M/code action with sound effects, full colour action graphics, skill levels, etc.
Author – Adrian Sheppard
Oric-1 48K – £6.95
SEVERN SOFTWARE
QUINCY
FOR 48K SPECTRUM
Quincy A superb dice game for 2 to 6 players. 3 throws per go to try and score points by obtaining certain combinations, i.e. 3 of a kind, a run, pairs, etc. 13 go's to complete a game. The highest score is the winner! It's a game that is easy to learn but can be won by skilful and thoughtful play. Full colour graphics, on-screen instructions, bonus scores, etc.
Author – Tony Churcher
Spectrum 48K – £4.95
ARCADE ACTION
JOGGER
FOR 16K/48K SPECTRUM
SEVERN SOFTWARE
Jogger Guide your joggers acr a 4-lane motorway and croco infested river to reach their sa haven through the gap in th fence. Each time a jogger is safely home the next one w have to encounter more lorries and cars on the motorway but fewer crocodiles and logs in the river. Full on-scre instructions. M/code sound effects and f action colour graphics.
Oric Author – Adrian Shepp
Spectrum Aut – Mike How
Oric-1 48K – £6.95
Spectrum 16/48K – £4.9
SEVERN SOFTWARE
Encounter
FOR ORIC 48K
Encounter A complex and intriguing classic-style text adventure. A Girl has been kidnapped by thugs – your job is to locate and rescue her! Everything you need can be found in the game but sometimes you may have to manufacture items. Chemistry knowledge will help! Most commands are verb followed by noun although abbreviations can be used. If the alarm sounds you have twenty moves to stop it before you too are caught. It's worthwhile making a map noting what you find and where as the time limit is only 500 moves.
Oric-1 48K – £7.50
Oric Atmos – £7.50
CBM 64 – £7.50
Spectrum 48K – £5.95
RISE TO THE
SEVERN SOFTWARE
GRAIL
FOR ORIC 48K
Grail You have been chosen to seek an recover the Holy Grail from the Castle Perilous. Throughout the course of yo task you will have to use your skill, intelligence and logic (along with little luck) as you encounter man foes. You will have the opportun to gather weapons and armou to fight with, but if you are wounded your strength will drain away – many other features such as warp, jewels, etc.
Author – Adrian Sheppar
Oric-1 48K – £6.95
Oric Atmos – £6.95
ARCADE ACTION
LONE RAIDER
FOR ORIC 48K
SEVERN SOFTWARE
Lone Raider As Captain of the spaceship 'Lone Raider' your mission is to save earth from the alien Zugs, who are aiming to destroy all forms of intelligent life in the Universe. The 'Lone Raider' possesses formidable weaponry such as phaser cannons and neutron bombs. Armed with these you will need to battle through the planetry defences to seek the mother ship. She is heavily guarded and your chances of surviving long enough to even glimpse her are slim . . . Superb graphics, volume control, hi-score, 4 screen scenarios, missiles, fuel dumps, mines, sharks, octupi, mother ship, etc. Can be played with keyboard or joystick using the Pase Ltd interface.
Author – Adrian Sheppard
Oric-1 48K – £7.50
Oric Atmos – £7.50

An enemy tank division is approaching. As the last surviving tank commander of your battalion, it's up to you to halt the opposition's merciless invasion of your territory.

You control a Chieftain tank aimed at the enemy forces on the horizon. Your adversaries have also taken to the skies and are swooping down from the clouds in fighter bombers to attack your tank. The whole area between you and the enemy has been heavily mined, and you've been trapped in the path of the bomber's runway.

Undeterred by the overwhelming odds, you radio for help and set out with four tanks to wreak as much havoc as you can.

The game has been written in two parts so that it will fit into an unexpanded Vic 20. Each program should be typed in separately and then saved onto tape. The first program loads all the information needed to set up the graphics. The second program can then be loaded in and the game started.

If you find the game too difficult to start off, you can change the value of the variable ET from 1000 to a lower number. This will award you a bonus tank earlier.

Variables

L = Tank location	NT = Number of tanks left
P = Position	M = Missile position
A$ = Convoy line	S = Score
B$-M$ = Mine print	HS = Hi-score
ET = Value for extra tank	I$-L$ = Convoy vehicles

PROGRAM ONE

```
10 PRINT"♥":FORI=7168TO7679:POKEI,PEEK(I+25600):NEXT:POKE52,28:POKE56,28
20 FORI=1TO88:READJ:POKE7431+I,J:NEXT
30 FORI=1TO48:READJ:POKE7631+I,J:NEXT
40 GOTO100
50 DATA255,255,255,255,255,255,255,255,24,153,153,189,255,255,255,189
60 DATA24,24,24,24,24,24,24,24,0,66,60,36,36,60,66,0
70 DATA0,0,2,6,127,127,255,48,0,0,0,124,254,254,252,48
80 DATA0,0,0,255,0,15,26,15,0,63,127,255,127,255,170,255,0,128,192,192,128,248,1
72,248
90 DATA0,18,50,119,255,255,255,102,0,0,63,31,63,255,255,102
91 DATA255,255,255,239,131,239,255,255,255,231,231,165,0,165,231,255
92 DATA231,231,165,129,0,165,231,255,231,231,195,195,129,165,231,255
93 DATA254,252,248,240,224,244,254,255,127,63,31,15,7,47,127,255
100 PRINT"♥■     MINEFIED          ■"
101 PRINT"WRITTEN BY S. P. BIRCH"
102 PRINT"TRY TO SHOOT CONVOY   AND BOMBERS -          ONLY ONE SHOT AT A    TIME
"
103 PRINT"AVOID THE MINES AND   THE BOMBS"
104 PRINT"PRESS ■■ TO CONTNUE"
105 IFPEEK(197)<>11THEN105
200 POKE36869,255
210 PRINT"♥   POINTS VALUE           ------------"
211 PRINT" %&  10-20          '() 30-50          +   60          *
 70"
212 PRINT" >?  20-30          =   40          <   50
 60"
213 PRINT" :    70"
220 PRINT"NOW LOAD MAIN PROGRAM TO CONTNUE":POKE198,0
```

PROGRAM TWO

```
10 PRINT"♥":POKE36869,255
30 HS=0:POKE36879,157:POKE650,128:POKE36878,15:MC=30720
40 I$="  %& ":J$=" '() ":K$="  *  ":L$="  +  "
100 NT=3:S=0:L=8174:M=0:ET=0
110 FORI=7680TO7897:POKEI,33:POKEI+MC,6:NEXT:FORI=38884TO38905:POKEI,0:NEXT
115 POKE7856,32:POKE7877,32:POKE7878,32:POKE7879,32
120 A$="                      "
121 B$="          $           "
122 C$="                      ":D$=C$:E$=D$:F$=E$:G$=F$:H$=G$
190 PRINT"■■"S:FORI=7699TO7701:POKEI+MC,0:POKEI,34:NEXT
200 GOSUB500:POKE36874,128:GOSUB600:IFNT<0THEN800
205 GOSUB500:POKE36874,130
210 X=INT(RND(1)*10)-2:IFX>1THEN200
215 IFP>0THEN230
220 IFRND(1)>.95THENP=L-309:PV=58:GOTO230
225 GOTO200
230 POKEP,33:POKEP+1,33:P=P-22+X:IFX>-1ANDPV<62THENPV=PV+1
```



BY STEVEN BIRCH

MINEFIELD

RUNS ON A VIC 20 IN 3.5K

Illustration: Dorian Cross



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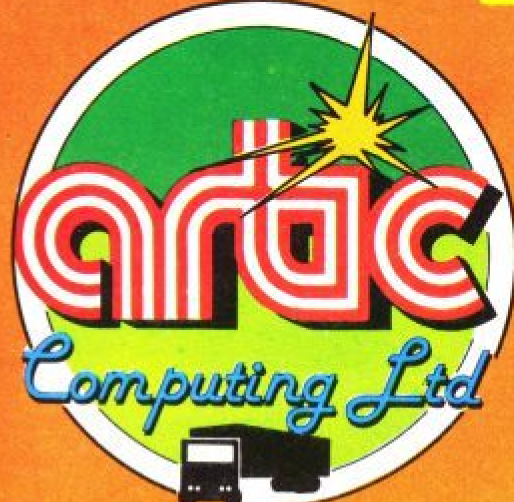


Come to that, will you ever work out the scoring system?

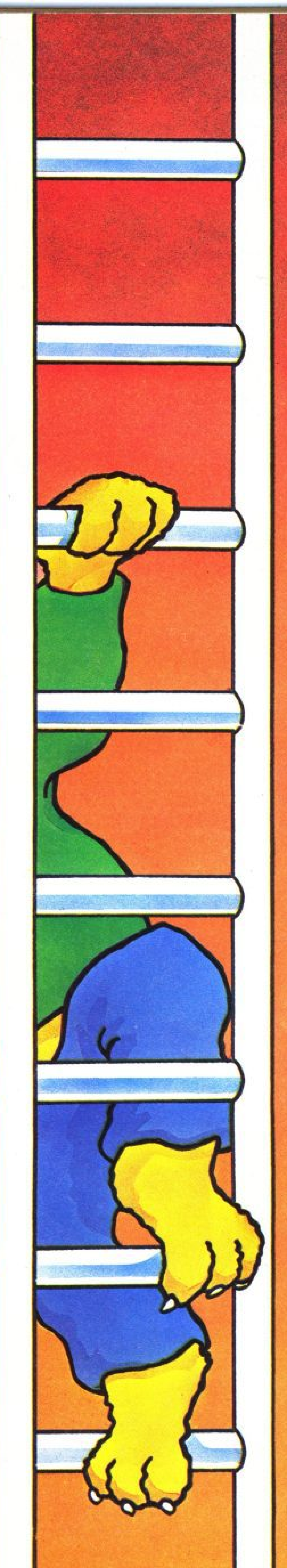
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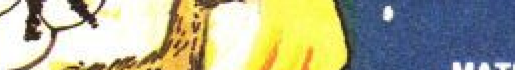


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Experience Laser Zone – an utterly NEW totally ORIGINAL masterpiece of Video games design. Learn to control two spaceships at once. Feel the EXHILARATION as, after long hours of practice, you control the two ships so that they function as a smooth, co-operative team! Feel the raw POWER as you lunge for the electro button and BLAST your enemies into expanding clouds of SPACE JUNK!! Feel the humiliation as a carelessly aimed BLAST slams into the side of your last remaining ship!! 8K expansion required. Available for Commodore 64 **£7.50** and VIC-20 **£6.**

MATRIX

Jeff Minter has taken Gridrunner – the game that topped bestseller charts in USA and UK – and created an awesome sequel.
Graphically superb, it features multiple screens, new aliens and attack waves, mystery bonuses, renegade humanoids, deflexor fields, diagonal tracking, countdown/panic phase and much, much more... Packed into 20 mind-zapping zones and accompanied by incredible sonics.
8K expansion required.
Available for Commodore 64 **£7.50** and VIC-20 **£6.**





HOVER BOVVER

A totally original arcade game for C64 featuring outstanding graphics and a sound track created by a professional Piano Wizard. Gordon Bennet has borrowed his neighbour's Air-Mo lawnmower. Mow your way through as many of the 16 lawns as you can before the pursuing neighbour retrieves his mower. Set your dog onto the neighbour to help you out of tight spots and don't annoy the gardener. Try not to plough through the neat flower beds or overheat your mower! **£7.50**

ATTACK of the MUTANT CAMELS

Planet earth needs you! Hostile aliens have used genetic engineering to mutate camels from normally harmless beasts into 90 foot high, neutronium shielded, laser-spitting death camels!! Can you fly your tiny, manoeuvrable fighter over the mountainous landscape to weaken and destroy the camels before they invade the humans stronghold! You must withstand withering laser fire and alien UFOs. Game action stretches over 10 screen lengths and features superb scrolling, scanner 1/2 player actions and unbelievable animation! Play this game and you'll never be able to visit a zoo again without getting an itchy trigger finger! Awesome m/c action!
Available for
Commodore 64 **£7.50.**

REVENGE OF THE MUTANT CAMELS

At last the long awaited sequel to Attack of the Mutant Camels is available. You are controlling a ninety foot high, neutronium shielded, lazer spitting death camel; leading a rebellion against your evil Zzyaxian overlords. The game features beautiful smooth scrolling graphics and no less than 42 different attack waves, more than any game in video history. The challenge of play will last for months as you battle to see what's on the next wave.





GRIDRUNNER

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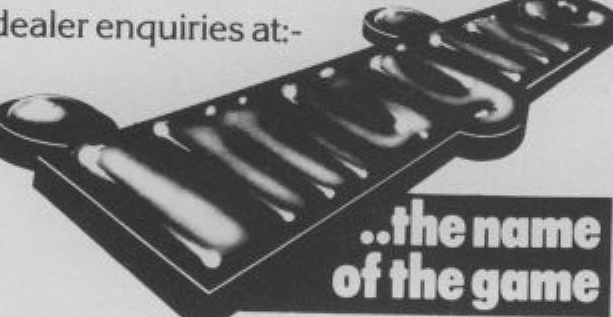
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```
235 POKEP,PV:POKE36875,PV*2+12:IFPV=62THENPOKEP+1,63
240 IFP<7724THENPOKEP,33:POKEP+1,33:P=0:PV=0:POKE36875,0
250 IFPV<60THEN200
255 X=RND(1)*9:IFX>1THEN200
260 PO=PEEK(P+22):FORI=255TO128STEP-1:POKE36876,I:NEXT
270 FORI=P+22TOP+23*22STEP22:POKEI,PO:PO=PEEK(I+22):POKEI+22,35:IFI>8119THEN280
275 FORJ=1TO10:NEXT:NEXT
280 I=I+43:FORI=ITOI+2:IFPEEK(I)=34THENPOKEI+MC,2:POKE7702-NT,33:POKE7702+MC-NT,
6:NT=NT-1
281 POKE+I,33:NEXT:I=I-3:FORJ=1TO30:NEXT
282 FORI=ITOI+2:POKEI,32:NEXT:POKE36876,0:POKEL+MC,0
290 GOTO200
500 POKEL,32:GETX$:IFX$=""THEN520
501 IFX$=","ORX$="."THEN510
502 GOTO520
510 X=ASC(X$)-45+L:IFX<8186ANDX>8163THENL=X
520 POKEL,34
550 IFM=0THENML=L:IFPEEK(197)<>32THEN590
560 IFM>1THENX=ML-(22*M):POKEX,MO:POKEX+MC,C
570 M=M+1:X=ML-(22*M):C=PEEK(X+MC):MO=PEEK(X):POKEX+MC,2:POKEX,35:POKE36877,255-
M
575 IFMO>35THENGOSUB700
580 IFM>20THEN:POKE36877,0:M=0:POKEX,MO:POKEX+MC,C:IFI>90THENFORI=1TO100:NEXT
590 RETURN
600 PRINT"■SQQQQQQQQQQQQQQ"A$"Q";
610 H$=G$:G$=F$:F$=E$:E$=D$:D$=C$:C$=B$:X=INT(RND(1)*10+1):B$=RIGHT$(B$,(22-X))+
LEFT$(B$,X)
620 A$=RIGHT$(A$,21)+LEFT$(A$,1):IFLEFT$(A$,3)>"   "THEN630
621 IFRIGHT$(A$,6)>"      "THEN630
622 X$="     ":X=RND(1)*5+1:ONXGOSUB691,692,693,694,695,690
623 A$=LEFT$(A$,17)+X$
630 IFPEEK(L-22)<36THEN680
640 POKE36877,128:POKEL+MC,2
650 FORI=1TO900:NEXT
660 POKEL+MC,0:NT=NT-1:POKE36877,0:POKE7701-NT+MC,6:POKE7701-NT,33
680 PRINTB$;C$;D$;E$;F$;G$;H$;
690 RETURN
691 X$=I$:RETURN
692 X$=J$:RETURN
693 X$=L$:RETURN
694 X$=K$:RETURN
695 RETURN
700 C=2:M=22:POKE36877,128:FORI=1TO400:NEXT
710 IFX>7987ORX<7965THEN730
720 I=X-7967:IFI>2ANDI<19THENA$=LEFT$(A$,I-2)+"     "+RIGHT$(A$,19-I)
721 I=(MO-36)*10:ET=ET+I:S=S+I
725 IFET>1000THENET=0:NT=NT+1:POKE7702-NT,34:POKE7702+MC-NT,0:B$="$"+LEFT$(B$,21
):GOSUB900
730 IFMO=36ANDS>0THENS=S-5
740 IFMO<58THEN790
750 I=(65-MO)*10:POKEP,33:POKEP+1,33:POKEP+MC,6:POKEP+MC+1,6:P=0:ET=ET+I:S=S+I:M
=22:C=6
760 MO=33:POKE36875,0
790 PRINT"Q    ■■■■"S:RETURN
800 PRINT"JGAME OVER                 YOU SCORED "S:IFS>HSTHENHS=S
810 PRINT"HIGH SCORE "HS:FORI=1TO500:NEXT
820 PRINT"TYPE Y TO PLAY AGAIN  OR R TO END"
825 IFPEEK(197)=10THEN890
826 IFPEEK(197)<>11THEN825
830 PRINT"J":GOTO100
890 END
900 FORI=160TO248STEP8:FORJ=1TO5:POKE36876,I:NEXT:NEXT:POKE36876,0:RETURN
```



Imagine
..the name of the game

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Q*BERT

BY JASON RIDER

RUNS ON A DRAGON 32 WITH JOYSTICKS

```
10 CLS
20 PRINT:PRINT"                    Q.BERT"
30 PRINT" MOVE YOUR LITTLE Q.BERT AROUND  THE SCREEN USING THE RIGHTHAND  JOYSTI
CK TO JUMP FROM BLOCK TO  BLOCK."
40 PRINT" THIS SOUNDS EASY ENOUGH,BUT BE- CAREFULL BECAUSE SID THE SNAKE  IS ALW
AYS AFTER YOU.YOU CANNOT  JUMP OFF THE STACK OF CUBES AS  YOU WILL DIE INSTANTLY
."
50 PRINT" 3 LIVES ARE GIVEN AT THE START  OF THE GAME."
60 PRINT:PRINT"      HIT ANY KEY TO START"
70 IO$=INKEY$:IF IO$=""THEN 70
80 HS=0
90 C$="H15;E15;F15;G15;D15;H15;U15;D15;F15;E15;U15;"
100 PLAY"T25505ABCDEFGO4GFEDCBAO3ABCDEFGO2GFEDCBAO1ABCDEFGO1GFEDCBAO2ABCDEFGO3GF
EDBCAO4ABCDEFGO5GFEDCBA"
110 LL=3
120 S=0
130 Q$="R6;L12;U7;R12;D7;L6;L2;D8;U8;R4;D8;"
140 IF S<>100 AND S<>200 THEN  PMODE 3:SCREEN 1,1:PCLS
150 IF S=100 THEN PMODE 3:SCREEN 1,0:PCLS
160 IF S=200 THEN PMODE 4:SCREEN 1,1:PCLS
170 B=55:A=128
```



That cute little monster, Q*bert, is back and swearing louder than ever. The little chap has been turning the air blue — and pyramids assorted colours — in arcades for some time now. But now with the help of Jason Rider, the cuddly curser has bounced right back for the Dragon 32 — with suitable alterations of course. We're a family magazine folks!

Just like the arcade game, Q*bert has to leap from square to square on the pyramid changing the colour of every cube. But his life isn't without dangers. Coily the snake and his accomplice, the bouncing ball, make life hell for Q*bert, chasing him across the pyramid and trying to knock him off the edge.

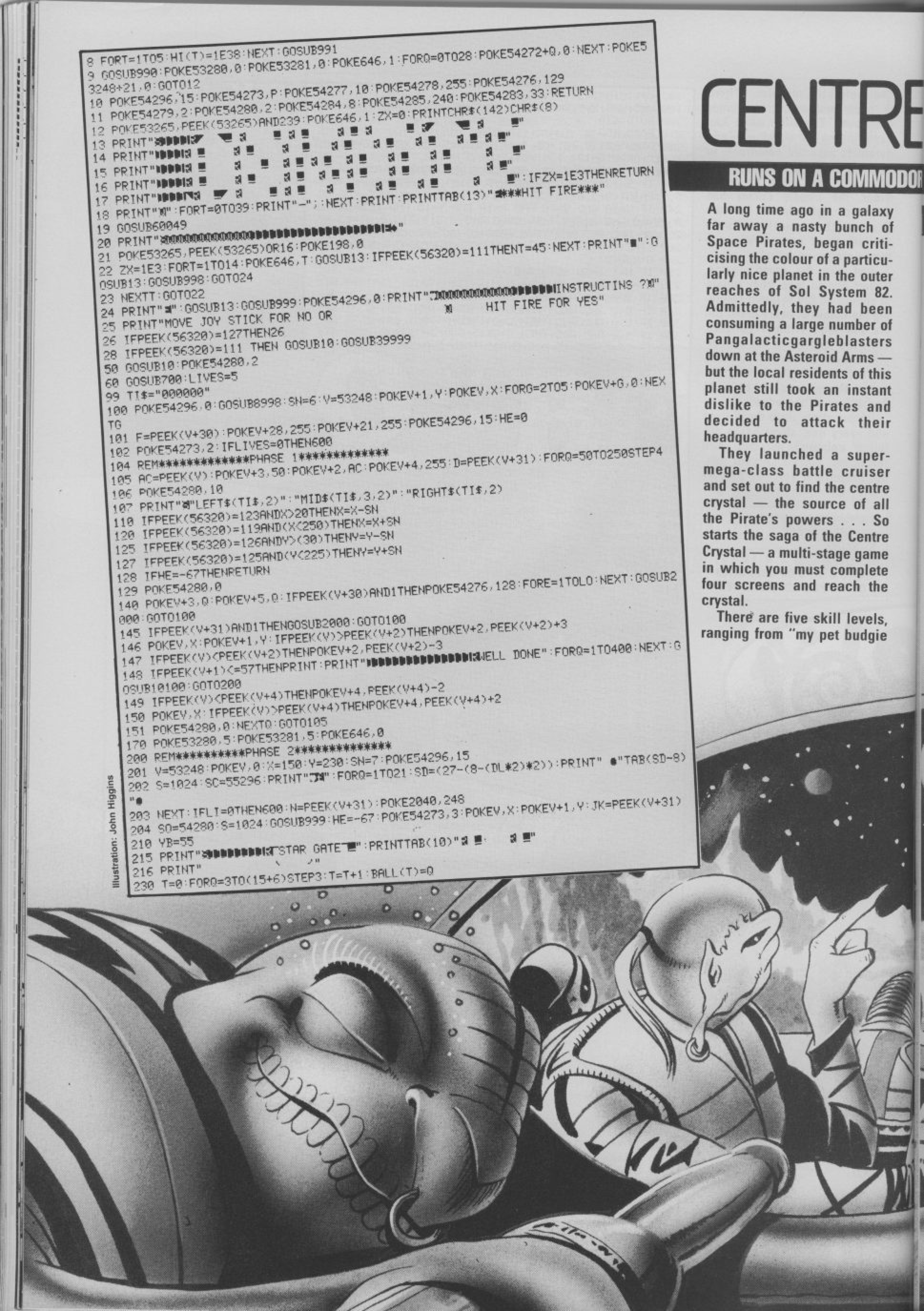
Q*bert starts with three lives and every new sheet has a different coloured pyramid. And remember, don't lose your temper because Q*bert can be very *"$%'" frustrating.

Variables
HS= HIGH SCORE
S=SCORE
LL=LIVES
B,A=Q*BERT'S CO-ORDINATES
C,D=SNAKE'S CO-ORDINATES



```
180 C=128:D=115
190 V=5:W=5:X=5:Y=5:Z=5:VV=5:WW=5:XX=5:YY=5:ZZ=5
200 GOTO 630
210 GOTO 450
220 DRAW"BM128,70;XC$;":DRAW"BM113,100;XC$;":DRAW"BM143,100;XC$;":DRAW"BM98,130;
XC$;":DRAW"BM128,130;XC$;":DRAW"BM158,130;XC$;":DRAW"BM173,160;XC$;":DRAW"BM143,
160;XC$;":DRAW"BM113,160;XC$;":DRAW"BM83,160;XC$;
230 IF S<>200 THEN PAINT(A-5,B+15),7,8:PAINT(A+5,B+15),7,8 ELSE PAINT(A-5,B+15),
5,5:PAINT(A+5,B+15),5,5
240 IF V=10 AND W=10 AND X=10 AND Y=10 AND Z=10 AND VV=10 AND WW=10 AND XX=10 AN
D YY=10 AND ZZ=10 THEN GOTO 600
250 IF A=C AND B=D THEN 670
260 LINE(C-6,D+5)-(C+7,D),PRESET,B:LINE(C-6,D)-(C+5,D-5),PRESET,B
270 H=RND(2)
280 IF H=1 THEN GOTO 380
290 CC=C:DD=D
300 IF B>D AND A>C THEN C=C+15:D=D+30
310 IF B<D AND A<C THEN C=C-15:D=D-30
320 IF B>D AND A<C THEN C=C-15:D=D+30
330 IF B<D AND A>C THEN C=C+15:D=D-30
340 IF CC=C AND DD=D AND A>C THEN D=D-30:C=C+15
350 IF CC=C AND DD=D AND A<C THEN D=D-30:C=C-15
360 IF CC=C AND DD=D AND B<D THEN D=D-30:C=C-15
370 IF CC=C AND DD=D AND B>D THEN D=D+30:C=C+15
380 LINE(C-6,D+5)-(C+7,D),PSET,B:LINE(C-6,D)-(C+5,D-5),PSET,B:LINE(C+7,D+3)-(C+7
,D),PRESET:LINE(C-6,D)-(C-6,D-3),PRESET
390 IF JOYSTK(0)=0 OR JOYSTK(0)=63 OR JOYSTK(1)=0 OR JOYSTK(1)=63 THEN GOTO 400
ELSE GOTO 220
400 LINE(A-6,B)-(A+6,B-7),PRESET,BF:LINE(A-2,B)-(A-2,B+8),PRESET:LINE(A+2,B)-(A+
2,B+8),PRESET
410 IF JOYSTK(0)=0 AND JOYSTK(1)=0 THEN A=A-15:B=B-30
420 IF JOYSTK(0)=0 AND JOYSTK(1)=63 THEN A=A-15:B=B+30
430 IF JOYSTK(0)=63 AND JOYSTK(1)=0 THEN A=A+15:B=B-30
440 IF JOYSTK(0)=63 AND JOYSTK(1)=63 THEN A=A+15:B=B+30
450 LINE(A-6,B)-(A+6,B-7),PSET,BF:LINE(A-2,B)-(A-2,B+8),PSET:LINE(A+2,B)-(A+2,B+
8),PSET:PRESET(A-2,B-5):PRESET(A+2,B-5):PRESET(A,B-2)
460 IF A=143 AND B=25 OR A=158 AND B=55 OR A=173 AND B=85 OR A=188 AND B=115 OR
A=203 AND B=145 OR A=218 AND B=175 OR A=188 AND B=175 OR A=158 AND B=175 OR A=12
8 AND B=175 OR A=98 AND B=175 OR A=68 AND B=175 OR A=53 AND B=145 OR A=68 AND B=
115 THEN 810
470 IF A=83 AND B=85 OR A=98 AND B=55 OR A=113 AND B=25 THEN 810
480 PLAY"T25505G"
490 IF A=128 AND B=55 THEN V=10
500 IF A=113 AND B=85 THEN W=10
510 IF A=143 AND B=85 THEN X=10
520 IF A=98 AND B=115 THEN Y=10
530 IF A=128 AND B=115 THEN Z=10
540 IF A=158 AND B=115 THEN VV=10
550 IF A=173 AND B=145 THEN WW=10
560 IF A=143 AND B=145 THEN XX=10
570 IF A=113 AND B=145 THEN YY=10
580 IF A=83 AND B=145 THEN ZZ=10
590 GOTO 220
600 PLAY"T25505ABCDEFG04GFEDCBA03ABCDEFG02GFEDCBA01ABCDEFG02ABCDEFG03GFEDCBA04GF
EDCBA05ABCDEFG"
610 S=S+100
620 GOTO 140
630 DRAW"BM20,20;XQ$;":PSET(18,15):PSET(22,15):PSET(20,18)
640 IF LL=2 OR LL=3 THEN DRAW"BM40,20;XQ$;":PSET(38,15):PSET(42,15):PSET(40,18)
650 IF LL=3 THEN DRAW"BM60,20;XQ$;":PSET(58,15):PSET(62,15):PSET(60,18)
660 GOTO 210
670 PLAY"T10005ACEG04BDF03ACEG02BDF01ACEG"
680 LL=LL-1
690 IF LL=0 THEN GOTO 710
700 GOTO 140
710 CLS
720 PRINT:PRINT:PRINT"      YOU HAVE BEEN KILLED"
730 PRINT:PRINT"       BUT YOU SCORED";S
740 IF S>HS THEN HS=S
750 PRINT:PRINT"      THE HIGH SCORE IS";HS
760 PRINT:PRINT"    WOULD YOU LIKE ANOTHER GO"
770 A$=INKEY$:IF A$=""THEN 770
780 IF A$="Y" THEN GOTO 90
790 CLS
800 GOTO 800
810 PLAY"T25501ABGCEF"
820 F=6:H=6
830 LINE(A-6,B)-(A+6,B-7),PRESET,BF:LINE(A-2,B)-(A-2,B+8),PRESET:LINE(A+2,B)-(A+
2,B+8),PRESET
840 F=F-0.2
850 H=H-0.2
860 IF A<128 THEN A=A-H:B=B+4
870 IF A>128 THEN A=A+F:B=B+4
880 IF A=128 THEN B=B+2
890 SOUND B,1
900 LINE(A-6,B)-(A+6,B-7),PSET,BF:LINE(A-2,B)-(A-2,B+8),PSET:LINE(A+2,B)-(A+2,B+
8),PSET:PRESET(A-2,B-5):PRESET(A+2,B-5):PRESET(A,B-2)
910 IF A<10 OR A>246 OR B>185 THEN GOTO 930
920 GOTO 830
930 PLAY"O5AAAA"
940 FOR J=1 TO 1000:NEXT:GOTO 710
```

Illustration: Terry Rogers



```
8 FORT=1TO5:HI(T)=1E38:NEXT:GOSUB991
9 GOSUB990:POKE53280,0:POKE53281,0:POKE646,1:FORQ=0TO28:POKE54272+Q,0:NEXT:POKE5
3248+21,0:GOTO12
10 POKE54296,15:POKE54273,P:POKE54277,10:POKE54278,255:POKE54276,129
11 POKE54279,2:POKE54280,2:POKE54284,8:POKE54285,240:POKE54283,33:RETURN
12 POKE53265,PEEK(53265)AND239:POKE646,1:ZX=0:PRINTCHR$(142)CHR$(8)
13 PRINT"                                        "
14 PRINT"                                        "
15 PRINT"                                        "
16 PRINT"                                        ":IFZX=1E3THENRETURN
17 PRINT"                                        "
18 PRINT"":FORT=0TO39:PRINT"-";:NEXT:PRINT:PRINTTAB(13)"***HIT FIRE***"
19 GOSUB60049
20 PRINT"                                      "
21 POKE53265,PEEK(53265)OR16:POKE198,0
22 ZX=1E3:FORT=1TO14:POKE646,T:GOSUB13:IFPEEK(56320)=111THENT=45:NEXT:PRINT"":G
OSUB13:GOSUB998:GOTO24
23 NEXTT:GOTO22
24 PRINT"":GOSUB13:GOSUB999:POKE54296,0:PRINT"                  INSTRUCTINS ?"
25 PRINT"MOVE JOY STICK FOR NO OR                          HIT FIRE FOR YES"
26 IFPEEK(56320)=127THEN26
28 IFPEEK(56320)=111 THEN GOSUB10:GOSUB39999
50 GOSUB10:POKE54280,2
60 GOSUB700:LIVES=5
99 TI$="000000"
100 POKE54296,0:GOSUB8998:SN=6:V=53248:POKEV+1,Y:POKEV,X:FORG=2TO5:POKEV+G,0:NEX
TG
101 F=PEEK(V+30):POKEV+28,255:POKEV+21,255:POKE54296,15:HE=0
102 POKE54273,2:IFLIVES=0THEN600
104 REM**************PHASE 1*************
105 AC=PEEK(V):POKEV+3,50:POKEV+2,AC:POKEV+4,255:D=PEEK(V+31):FORQ=50TO250STEP4
106 POKE54280,10
107 PRINT""LEFT$(TI$,2)":"MID$(TI$,3,2)":"RIGHT$(TI$,2)
110 IFPEEK(56320)=123ANDX>20THENX=X-SN
120 IFPEEK(56320)=119AND(X<250)THENX=X+SN
125 IFPEEK(56320)=126ANDY>(30)THENY=Y-SN
127 IFPEEK(56320)=125AND(Y<225)THENY=Y+SN
128 IFHE=-67THENRETURN
129 POKE54280,0
140 POKEV+3,0:POKEV+5,0:IFPEEK(V+30)AND1THENPOKE54276,128:FORE=1TOLO:NEXT:GOSUB2
000:GOTO100
145 IFPEEK(V+31)AND1THENGOSUB2000:GOTO100
146 POKEV,X:POKEV+1,Y:IFPEEK(V)>PEEK(V+2)THENPOKEV+2,PEEK(V+2)+3
147 IFPEEK(V)<PEEK(V+2)THENPOKEV+2,PEEK(V+2)-3
148 IFPEEK(V+1)<=57THENPRINT:PRINT"               WELL DONE":FORQ=1TO400:NEXT:G
OSUB10100:GOTO200
149 IFPEEK(V)<PEEK(V+4)THENPOKEV+4,PEEK(V+4)-2
150 POKEV,X:IFPEEK(V)>PEEK(V+4)THENPOKEV+4,PEEK(V+4)+2
151 POKE54280,0:NEXTQ:GOTO105
170 POKE53280,5:POKE53281,5:POKE646,0
200 REM**********PHASE 2*************
201 V=53248:POKEV,0:X=150:Y=230:SN=7:POKE54296,15
202 S=1024:SC=55296:PRINT"":FORQ=1TO21:SD=(27-(8-(DL*2)*2)):PRINT" "TAB(SD-8)
"
203 NEXT:IFLI=0THEN600:N=PEEK(V+31):POKE2040,248
204 SO=54280:S=1024:GOSUB999:HE=-67:POKE54273,3:POKEV,X:POKEV+1,Y:JK=PEEK(V+31)
210 YB=55
215 PRINT"          STAR GATE ":PRINTTAB(10)"        "
216 PRINT"             \      /"
230 T=0:FORQ=3TO(15+6)STEP3:T=T+1:BALL(T)=0
```

Illustration: John Higgins

CENTRE

RUNS ON A COMMODOR

A long time ago in a galaxy far away a nasty bunch of Space Pirates, began criticising the colour of a particularly nice planet in the outer reaches of Sol System 82. Admittedly, they had been consuming a large number of Pangalacticgargleblasters down at the Asteroid Arms — but the local residents of this planet still took an instant dislike to the Pirates and decided to attack their headquarters.

They launched a super-mega-class battle cruiser and set out to find the centre crystal — the source of all the Pirate's powers . . . So starts the saga of the Centre Crystal — a multi-stage game in which you must complete four screens and reach the crystal.

There are five skill levels, ranging from "my pet budgie

E CRYSTAL

ORE 64 WITH JOYSTICK

BY HENRY O'KEEFFE

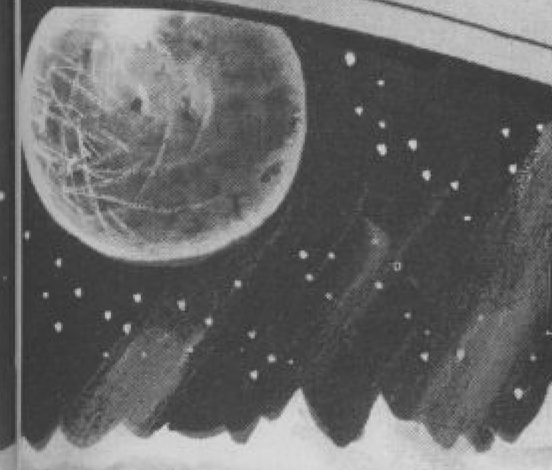
could beat you" to "not even Darth Vader and the Force could deal with this!" If you manage to complete one sequence, then you'll start the game again at another skill level.

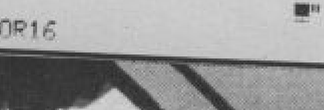
Full instructions are included in the program — but remember to plug your joystick into port 2 before you dare take on the Pirates!

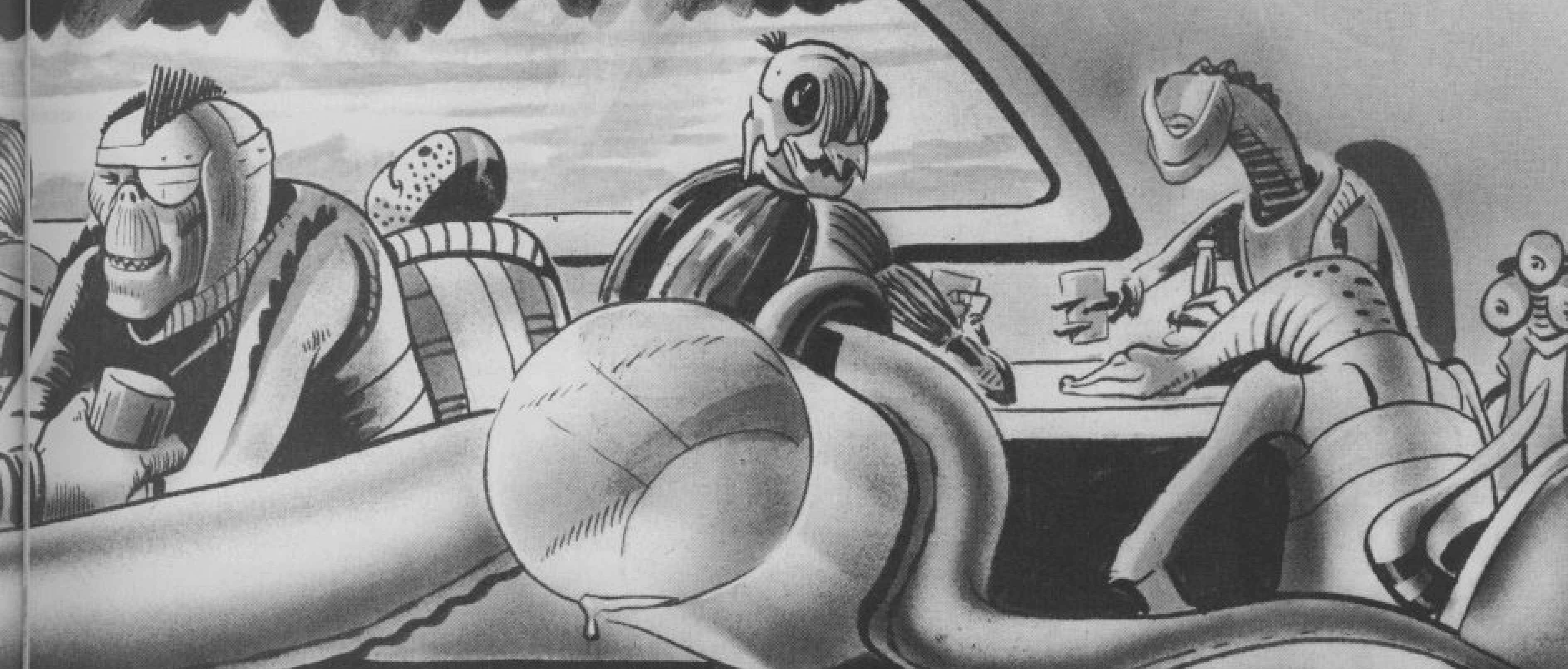
If you want to disable the run/stop key to stop an accidental escape while you play the game, enter the Command POKE809,255. This also causes the program to be unlistable.

Entering POKE 809,246 into the game reverses this process and allows the game to be listed as normal.

```
233 NEXT
235 FORQ=1TO7:RN=RND(1):IFRN>.5THENBX(Q)=-1
236 IFRN<.5THENBX(Q)=1
237 NEXT:POKE54296,0:FORQ=55296TO55296+999:POKEQ,7:NEXT:POKE54296,15:PRINT"■"
239 FORQ=1TO7:XR(Q)=4+RND(1)*(SD-15):NEXT
240 FORQ=1TO7:POKES+(XR(Q)+BX(Q))+(BALL(Q)*40),81:POKESO,Q*3:NEXT:POKE54276,0
255 FORQ=1TO7:POKES+(XR(Q)-BX(Q))+(BALL(Q)*40),32:NEXT
260 FORQ=1TO7:IFXR(Q)>=(SD-9)ORXR(Q)<=3THENBX(Q)=-BX(Q):POKE54276,129
261 NEXT:PRINT"■":PRINTLEFT$(TI$,2)":"MID$(TI$,3,2)":"RIGHT$(TI$,2)
270 FORQ=1TO7:XR(Q)=XR(Q)+BX(Q):NEXT:XU=X:YU=Y
280 POKEV,X:POKEV+1,Y:GOSUB110:IFPEEK(V+31)AND1THENGOSUB2000:GOTO200
281 IF XU<>XTHENPOKE54290,129:POKE54290,128
282 IF YU<>YTHENPOKE54290,129:POKE54290,128
290 IFX>100ANDX<=129ANDY<=YBTHENFORS=1TO16:POKE53281,S:FORL=1TO90:NEXT:NEXT:GOTO
298
295 POKESO,0:GOTO240
297 GOSUB30000:REM*******PHASE 3********
298 DA=2+(4-DL):X=150:V=53248:POKEV+3,230:POKE54280,0:POKE54276,129:GOSUB800
299 X1=40+RND(1)*200:R=PEEK(V+30):FORQ=45TO225:POKE54273,245-Q
300 POKEV+1,Q:IFPEEK(56320)=123ANDX>50THENX=X-1
305 IFLI=0THEN600
310 IFPEEK(56320)=119ANDX<250THENX=X+1
320 POKEV,X:X1=X1+DA:POKEV+2,X1:IFX1>=245ORX1<=45THENDA=-DA
330 IFPEEK(V+30)AND1THENFORU=1TO900:NEXT:GOTO350
340 NEXTQ:GOSUB2000:GOTO298
350 POKE54276,0:POKE54280,0:POKEV,0:POKEV+2,0:POKE646,0:IFLI=0THENPRINT"■":GOTO6
00
360 PRINT"[control chars]"::POKE53280,5:POKE53281,1:PRINT"YOU NOW HAVE CAPTURED AN ENEMY
CRAFT
370 PRINT:PRINT:PRINT"YOU MUST GUIDE YOURSELF DOWN A SMALL":PRINT:PRINT:PRINT"
         OPENING"
380 GOSUB60000:PRINT"■":POKE53280,0:POKE53281,0
390 POKE2040,249:POKE V,150:POKEV+1,150
395 PRINT"■":X=170
397 POKE54276,129:LT=PEEK(V+31)
400 AC=(40/2)-5:A=1:PRINT"[control chars]":FORRQ=1TO255:PRINTTAB(AC)"■ ■
    ■ ■
405 RN=RND(1)
410 IFRN>.5ANDAC>4THENAC=AC-1
415 IFRN<.5ANDAC<20THENAC=AC+1
420 IFPEEK(56320)=123ANDX>4THENX=X-4
430 IFPEEK(56320)=119ANDX<250THENX=X+4
435 POKEV,X:POKE54273,255-RO
440 IFPEEK(V+31)AND1THENGOSUB2000:GOTO350
450 NEXT
460 FORQ=1TO1000:NEXT
464 PRINT"■":POKE53265,PEEK(53265)AND239
465 GOSUB850:PRINT"[control chars]":FORT=1TO39:PRINT"■-";:NEXT:PRINT"[control chars]"
466 AC=20:FORDA=1TO20:PRINTTAB(AC-DA);:FORQ=1TO(DA*2):PRINT"■ ■";:NEXT:PRINT:NEX
T
467 POKE53265,PEEK(53265)OR16:PRINT"[control chars]";
468 FORY=0TO1:PRINT"[control chars]▌                ":NEXT
470 POKEV,175:FORQ=0TO175:POKEV+1,Q:POKE54273,255-(1.2*Q):NEXT:FORT=0TO1000:NEXT
473 POKEV,0:POKEV+1,0:POKEV+23,1:POKEV+29,1:REM          ENLARGE SPRITE
475 PRINT"■":FORQ=0TO22:POKE53265,PEEK(53265)AND239:PRINT"/\"TAB(36)"/\":NEXT
480 PRINT"[control chars]▌ ■            ■"
490 FORQ=0TO4:PRINT"[control chars]▌ | ■           ■":NEXT
495 PRINT"[control chars] ■
496 PRINT"[control chars]▌ | ■                  ■"
499 POKE53265,PEEK(53265)OR16
```









A glittering gathering of software stars congregated at Mortons restaurant, in London's posh Berkeley Square, last month to celebrate *Computer and Video Games'* first ever Golden Joystick Awards presentations.

All the top names from the British software industry were there — waiting to discover just who would go home clutching one of our coveted Golden Joysticks.

Radio One DJ Dave Lee Travis — a self confessed computer fan — was there to present the prizes and, as the time for the awards to be announced approached, tension mounted among the rival programmers and software house supremos alike as they waited with bated breath to hear the news.

First up was our Golden Joystick Award for the best Arcade Style Game of 1983. Nominations were *Penetrator* from Melbourne House, *Arcadia* from Imagine *Zalaga* from Ardvark and *Manic Miner* from Bug Byte.

The winner was the ever popular *Manic Miner* so the first Golden Stick was received by John Phillips from Bug Byte and the man behind Manic Miner, programmes Matthew Smith.

Next came the award for Best Strategy Game which went to *The Hobbit,* 1983's most popular Adventure, from Melbourne House. Other nominations in this class were *Football Manager* from Addictive Games, *Planet Invasion* from Microdeal and *Scrabble* from Psion.

Best Original Game nominations included *Psst!* from Ultimate Play the Game, *Ant Attack,* that wonderful three dimensional adventure from Quicksilva, *Splat!* from Incentive, and *Ah Diddums* from Imagine. Winner of the Golden Joystick in this category was the game with that cute teddy bear, *Ah Diddums!*

Moving on to the main award of the day, Game of the Year, the nominations were *The Hobbit, Manic Miner, Jet-Pac* from Ultimate and *Arcadia* from Imagine.

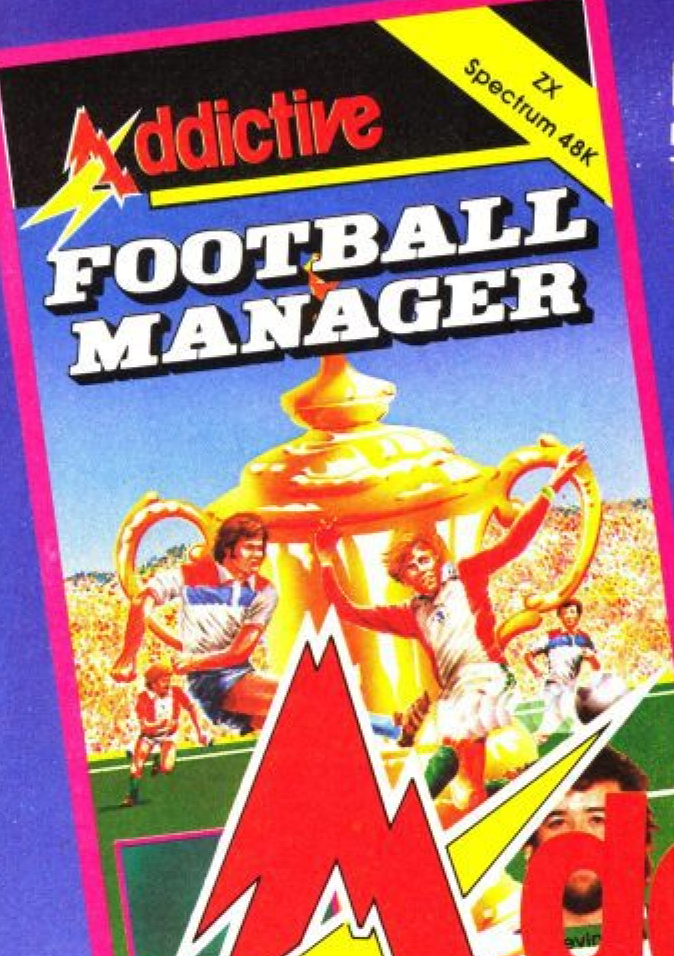
After a suitable pause for effect, Dave Lee Travis told the assembled multitudes that Ultimate's *Jet-Pac* was Game of the Year 1983! Ultimate's Carol Ward stepped up to receive the award and thanked all *C&VG's* 80,000-plus readership for making the game an award winner.

Ultimate's representatives didn't have much time to settle back in their seats as Tim Stamper was called up to receive the Golden Joystick Award for Software House of the Year — the final award in the ceremony. Other nominations in this category included Melbourne House, Imagine and Jeff Minter's Llamasoft.

After much applause and merrymaking, the first award ceremony came to an end — and the software houses were already planning new games to compete for the 1984 Golden Joystick Awards.

The No. 1* Football Game

ZX81 16K, ZX Spectrum 48K†
BBC and Oric versions coming soon!



Football Manager

Designed by Kevin Toms

This outstanding game of skill and strategy is now widely available and you can join the many thousands of satisfied customers who have purchased the game. This is no five minute wonder – you will be playing this game for hours over many weeks (we know – our customers tell us!).

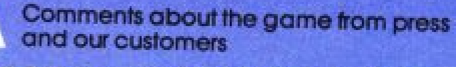


Kevin Toms

Some of the features of the game:–

- ★ Matches in 3D graphics
- ★ Transfer market
- ★ Promotion and relegation
- ★ F.A. Cup matches
- ★ Injury problems
- ★ Full league tables
- ★ Four Divisions
- ★ Pick your own team for each match
- ★ As many seasons as you like
- ★ Managerial rating
- ★ 7 skill levels
- ★ Save game facility

Addictive



*ZX81 Chart, Home Computing Weekly 16.8.83

Programmers
We want your software. Send us a sample, if accepted, we will supply generous royalties plus cash advances plus free advice from Kevin himself!

Comments about the game from press and our customers

"FOOTBALL MANAGER is the best game I have yet seen on the Spectrum and my personal favourite of all the games on any micro ... To the ordinary person it is an excellent view of what can be done in the field of computer games ... The crowning glory of this game is the short set pieces of match highlights which show little stick men running around a pitch, shooting, defending and scoring ... It is a compulsive game but people who cannot take game sessions of 9 hours or so, which happened on one happy Sunday, will be grateful to know that there is a 'save to tape' option. FOOTBALL MANAGER has everything it could ... The originator, Addictive Games, certainly deserve the name." Rating: 19/20 (Practical Computing – August 1983).

"When I first received this game I spent the best part of the weekend playing it. Since then I have returned to it more often than any other. The truly addictive quality of this game is the remarkable way it mirrors the real football manager's problems ..." (Personal Computer Games – Summer 1983)

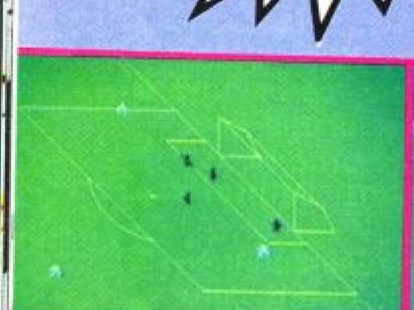
"It's my own fault you *did* warn me – I am totally and completely hooked on FOOTBALL MANAGER." (Mr. A. Wright – Lancashire.)

"It is by far the best software game that I have seen for the Spectrum." (Mr. N. Lincoln – Surrey.)

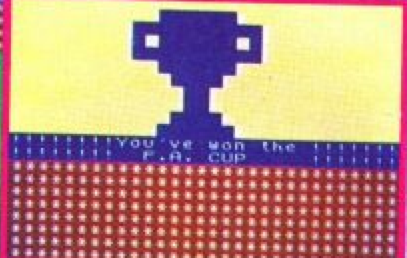
"I congratulate you for a marvellous game which keeps the player enthralled." (Mr. N. Creasey – Gerrard's Cross.)

"I am writing to say what a great game it is. I have spent over 45 hours on it." (Mr. D. Fearn – Gloucestershire.)

"Your FOOTBALL MANAGER game is terrific." (Mr. N. Cumming – West Bromwich.)







ction from the Spectrum version

Available from computer software stockists nationwide, including  **& WHSMITH** 

† Spectrum version only

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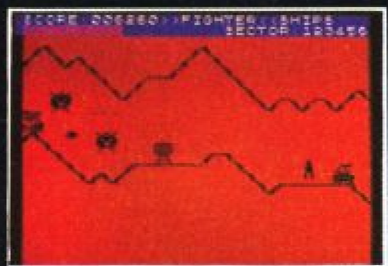
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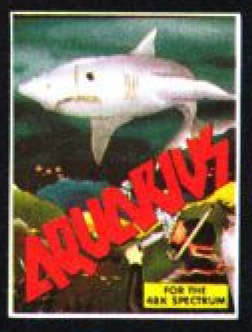
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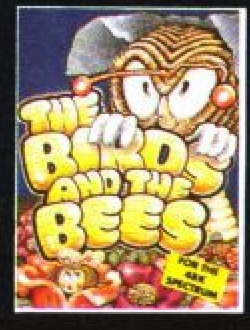
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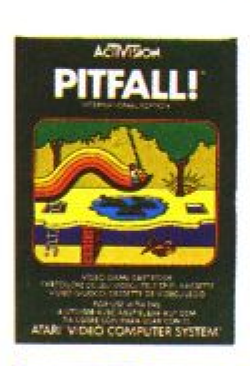
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500 POKEV,200:DP=PEEK(V+31):FORQ=0TO200:POKEV+1,Q:IFPEEK(V+31)AND1THENGOTO870
501 POKE54273,255-(Q*1.5):NEXT
600 POKEV,150:POKEV+2,150:FORQ=1TO255:POKEV+1,255-Q:POKEV+3,Q:NEXT
605 RETUR=2:POKE54296,15:GOSUB871
615 PRINT"YOU JUST AINT CUT OUT FOR THIS LINE OF                    WORK
620 PRINT"QQQQQQ]]]]]]]]]]]MOVE STICK TO BEGIN"
625 WAIT56320,111,111:GOTO9
700 DL=1:POKE53280,14:POKE53281,0:A$="JQQQ    DIFFICULTY LEVELS.........
710 GOSUB49999:PRINT:FORQ=1TO400:NEXT
720 A$="MOVE JOY STICK LEFT TO DECREASE LEVEL... MOVE RIGHT TO INCREASE LEVEL."
730 A$=A$+"HIT FIRE WHEN YOU HAVE MADE YOUR CHOICE"
735 GOSUB49999:PRINT:A$="(5)=SUPER EASY..(1)=PRO":GOSUB49999
736 POKE54276,128:POKE54280,0
740 PRINT"SQQQQQQQQQQQQQQQQQQQ]]]]]]]]]]]]]]]]-"DL"-"
745 IFPEEK(56320)=119ANDDL<5THENDL=DL+1
746 IFPEEK(56320)=123ANDDL>1THENDL=DL-1
747 IFPEEK(56320)=111THENPOKE54276,129:RETURN
748 FORI=0TO100:NEXT:GOTO740
800 REM      LUNAR LANDER STARS                          (PHASE 3)
810 PRINT"J":POKE54273,0:FORQ=1TO155:A=RND(1)*36:D=1+(RND(1)*23):POKE1024+A+D*40
,ASC(".")
820 POKE55296+A+D*40,1:NEXTQ:RETURN
850 REM THE PIRATE EMPIRE IS DEAD      :-
855 V=53248:POKE53280,0:POKE53281,0
860 FORQ=0TO50:A=RND(1)*40:D=RND(1)*5:POKE1024+A+D*40,ASC(".")
865 POKE55296+A+D*40,13:NEXT:RETURN
870 FORE=0TO60:FORY=0TO7:POKE53270,8+Y:POKE54273,Y:NEXT:NEXT
871 POKEV+1,0:FORQ=0TO255:POKE54273,Q:POKE53272,Q:NEXT
872 FORQ=255TO0STEP-1:POKE53272,Q:POKE54273,Q:NEXT:POKE53272,21
873 IFRETUR<>0THENRETUR=0:RETURN
874 PRINT"JQQQQQQQQ":GOSUB50100:PRINT"JYOU HAVE DRAINED THE CRYSTAL":PRINT"QOF I
T'S POWER":PRINT:PRINT
877 PRINT
884 PRINT"YOU HAVE MASTERED SKILL LEVEL"DL:PRINT:PRINT
886 PRINT"THE BEST TIME FOR LEVEL"DL"IS"HI(DL)"SECS":PRINT:PRINT"SCORED BY "HI$(
DL)
887 PRINT"QYOUR SCORE WAS "VAL(TM$)
888 PRINT"QQ]MOVE STICK TO CONTINUE":WAIT56320,111,127:IFDL>1THENDL=DL-1
890 LI=5:TI$="000000":GOTO100
990 PRINT"JQQQQQQQQQQQQQQQQQQQQQQ]]CENTRE CRYSTAL (C) HENRY O KEEFFE":RETURN
991 POKE53281,0:PRINT"JQQQQQQPLEASE WAIT":FORQ=1TO63*2:POKE62*256+Q,0:NEXT
992 RESTORE:FORG=0TO37:READD:POKE(159*256)+G,D:NEXT:REM READ M CODE
993 DATA169,0,162,0,160,0,141,33,208,141,32,208,152,200,192,255,240,3,76,6,159,2
32
994 DATA224,255,240,3,76,12,159,169,0,141,33,208,141,32,208,96
995 MP=(256*62)-1:P=63*2:FORQ=1TOP:READSD:POKEMP+Q,SD:NEXT:GOSUB10000
997 RETURN
998 FORQ=1TO4:SYS256*159:NEXT:RETURN
999 REM VOICE 3 SET UP (FOR PHASE 2)
1000 PRINT"■":POKE54291,3:POKE54292,249:POKE54287,37:POKE54286,0:POKE54290,128:R
ETURN
2000 C=0:FORT=1TO100:POKE2040,T:POKE54276,129:POKE54273,100-T
2001 C=C+1:IFC=8THENC=0
2010 POKE53270,8+C:NEXT:POKE53270,200:POKE2040,248:LI=LI-1:POKE54296,0
2020 POKEV+21,0:PRINT"JQQQQQQQQQQQQLIVES LEFT="LI:FORT=0TO500:NEXT
2030 POKEV+21,255:POKE54296,15:RETURN
8998 V=53248:POKEV+21,255:POKE53280,0:POKE53281,0:PRINT"J":POKEV+23,0:POKEV+29,0
8999 POKEV+21,0:POKEV+37,5:POKEV+38,2:POKEV+39,1:POKEV,150:POKEV,0
9000 POKE55,0:POKE56,61:POKE52,61:POKE51,61:POKE2040,248:POKE2041,249:POKE2042,2
49
9001 X=150:Y=225:S=1024:SC=55296:SR=0
9005 GOSUB10000
9006 FORR=1TO50:A=(RND(1)*39):D=1+RND(1)*10:POKES+A+D*40,ASC("."):POKESC+A+D*40,
1:NEXT
9012 PRINT"■SQQQQQQQQQQQ────────────────────────────────────"
9013 PRINT"Q":HJ=6:FORQ=1TO20:IFRND(1)>.45THENA=-1:GOTO9015
9014 A=1
9015 IFHJ+A<0THENHJ=1:GOTO9017
9016 HJ=HJ+A
9017 PRINTTAB(HJ)"■";:FORT=1TO(9+DL):PRINT" ";:NEXT:PRINT"■":NEXT
9018 PRINT"SQ──────────────────────────────────────QQ":FORQ=1TO7:PRINT"| "TAB(38
)"|"
9019 NEXT:RETURN
9020 POKE54277,15
9029 DATA0,0,0,0,0,0,48,0,0,220,0,3,87,0,3,85,0,13,85,192,3,87,0,3,187,0,60,18
4
9030 DATA240,56,184,176,56,184,176,56,184,176,58,186,176,58,186,176,58,186,176
9040 DATA56,184,176,56,184,176,56,184,176,60,184,240,0,0,0,0
9050 DATA0,0,0,0,0,0,0,0,0,0,0,0,2,170,128,9,85,96,37,150,88,165,150,90,165,85,9
0
9055 DATA9,85,96,2,170,128
9060 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
9070 DATA0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
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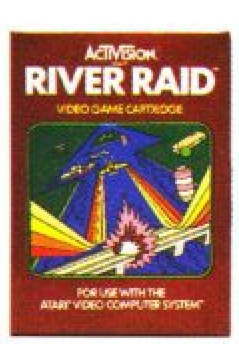
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9999 PRINTPEEK(653):GOTO9999
10000 POKEV+40,1:POKEV+41,2:POKEV+41,7:S=1024:SC=55296
10001 RETURN
10002 REM       *WALL CRASH*
10050 POKE54280,0:FORQ=1TO3900:NEXT:RUN
10100 P1=PEEK(V+2):P2=PEEK(V+4):FORQ=P2TO0STEP-1:POKEV+4,Q:NEXT:FORQ=1TO400:NEXT
10105 POKE54276,0:POKE54280,0
10110 POKEV+41,7:FORQ=P1TO0STEP-1:POKEV+2,Q:NEXT:FORT=0TO1000:NEXT:GOTO200
39999 POKE54296,15
40000 PRINT"▮▮":POKE53280,1:POKE53281,1:A$="              CENTRE CRYSTAL    ":GOSUB
49999
40001 A$="IN THIS GAME YOU HAVE TO GO THROUGH SEVERAL PHASES TO REACH YOUR"
40002 A$=A$+" OBJECTIVE--   THE DESTRUCTION OF THE CENTRE CRYSTAL":GOSUB49999
40010 A$="THE PLOT FOLLOWS:-":GOSUB49999:POKE54276,128:FORQ=1TO9125:NEXT
40020 POKE54296,0:POKE54273,0:POKE54280,0:POKE54296,15:POKE54276,129
40030 PRINT"▮":A$="ELEVEN HUNDRED YEARS AGO A WAR WAS STARTED BETWEEN A PIRATE R
ACE "
40040 A$=A$+"AND YOUR HOME PLANET.":GOSUB49999:A$="▮NOW STARTLING INFORMATION"
40050 A$=A$+" ▮REVEALS THAT THE WHOLE POWER OF THE PIRATE EMPIRE COMES FROM
40060 GOSUB49999:A$="              ▮A CENTRE CRYSTAL▮":GOSUB49999
40070 POKE54280,0:POKE54276,128:FORQ=1TO9125:NEXT:PRINT"▮":POKE54276,129:POKE542
73,0
40080 A$="THEN YOUR PEOPLE TRIED TO LEAD AN ATTACK ON THE PIRATES,BUT"
40090 A$=A$+" UNFORTUNATLY THEY LEARNED OF THIS AND LAUNCHED A COUNTER ATTACK."
40100 GOSUB49999:POKE54280,0:POKE54276,128:POKE54273,0:POKE54276,129
40110 A$="NOW YOUR MOTHER SHIP IS ON FIRE AND THE INTRUDER ALERT IS SOUNDING,
40120 A$=A$+"YOUR ONLY HOPE IS TO ESCAPE IN AN UNARMED SHUTTLE AND CRASH INTO"
40130 A$=A$+" ▮THE   CRYSTAL...":GOSUB49999
40131 POKE54276,128:POKE54280,0:FORQ=1TO9125:NEXT
40135 PRINT"▮HIT FIRE TO LEARN ABOUT THE DIFFERENT ▮▮▮PHASES":PRINT"▮ELSE MOVE J
OYSTICK
40136 IFPEEK(56320)=127THEN40136
40137 IFPEEK(56320)<>111THENRETURN
40150 PRINT"▮":POKE54276,129:A$="PHASE 1:-":GOSUB49999
40160 A$="▮IN THIS PHASE YOU MUST RIDE UP THE DOCKING BAY'S RAMP HENCE SHOOTING
40170 A$=A$+" YOURSELF INTO SPACE (YOU MUST ALSO AVOID THE ONCOMING PIRATES"
40180 A$=A$+" ▮AT ALL COSTS!)":GOSUB49999:POKE54276,128:POKE54280,0:FORQ=1TO9125
:NEXT
40185 POKE54276,129:A$="▮                PHASE 2:-":GOSUB49999
40190 A$="IN THIS PHASE YOU MUST TRY AND DODGE THE METORITES AND REACH THE STAR
40193 A$=A$+"GATE TO HYPER SPACE INTO THE PIRATES AREA OF SPACE.":GOSUB49999
40194 A$="TIME IS THROWN OUT OF ALL NORMALITES AND IT TAKES 3 SECONDS FOR YOUR S
H
40195 A$=A$+"IP TO RESPOND TO THE CONTROLS."
40196 A$=A$+"BY NOW YOU CAN HEAR THE LAST THROBS OF YOUR ENGINE WHICH IS ALMOST
40197 A$=A$+" OUT OF FUEL."
40199 GOSUB49999:POKE54276,128:POKE54280,0:FORT=0TO9125:NEXT
40200 A$="▮     ▮     PHASE 3:-":GOSUB49999:A$="IN THIS PHASE YOU MUST TRY AND
40210 A$=A$+" LAND ON (CAPTURE) AN ALIEN SPACE SHIP TO USE IN THE REST OF YOUR "
40220 A$=A$+"MISSION (BECAUSE YOUR SHIP HAS NOW USED UP ALL IT'S FUEL.)":GOSUB49
999
40230 POKE54280,0:POKE54276,128:FORT=0TO7000:NEXT:A$="▮▮▮▮▮▮▮▮▮▮PHASE 4 (FINAL)"
40240 GOSUB49999:PRINT:A$="THIS IS THE FINAL PHASE WHERE IN YOU COMPLETE YOUR MI
SSION"
40250 GOSUB49999:POKE54280,0:POKE54276,128:FORQ=1TO1000:NEXT:RETURN
49999 FORQ=1TOLEN(A$):PRINTMID$(A$,Q,1);"▮▮";:C=C+1:IFC>=33ANDMID$(A$,Q,1)=" "TH
ENC=0:PRINT" ":PRINT
50000 POKE54273,QAND30:POKE54280,CAND14:NEXTQ:PRINT" ":PRINT:C=0:RETURN
50100 IFVAL(TI$)<HI(DL)THENHI(DL)=VAL(TI$):PRINT"▮                GREAT SCORE":PRI
NT:GOTO50110
50105 PRINT:POKE53270,8:TM$=TI$:RETURN
50110 POKE198,0:PRINT"▮▮▮▮▮ENTER YOUR NAME ";:HI$(DL)="":R$="":TM$=TI$
50120 GETR$:IFR$=CHR$(13)THENPRINT" ":RETURN
50130 PRINTR$"▮▮";:HI$(DL)=HI$(DL)+R$
50140 GOTO50120
60000 PRINT:PRINT"▮▮▮▮▮▮HIT "CHR$(34)"FIRE"CHR$(34)" TO CONTINUE"
60010 IFPEEK(56320)=111THENRETURN
60020 GOTO60010
60021 REM
60049 PRINT"▮▮▮▮▮            .            ________
60050 PRINT"▮▮▮▮▮     /‾‾‾‾‾‾‾‾\        |________|
60051 PRINT" ▮▮▮▮▮.   \____  ___/           //
60052 PRINT"▮▮▮▮▮ .        \  \          // .  .
60053 PRINT"▮▮▮▮▮   . . .   \  \        //
60054 PRINT" ▮▮▮▮▮   . .     \   ______ ____\    .
60055 PRINT" ▮▮▮▮▮.   .  .      ____________
60056 PRINT"▮▮▮▮▮
60057 PRINT"▮▮▮▮▮▮ ------ C R Y S T A L ------
60058 PRINT" ▮▮▮▮▮ *************************
60059 PRINT"▮▮▮▮▮    ... .     . .                   ":RETURN
60060 REM"
60070 PRINTPEEK(56320):GOTO60070:REM    CHECK VALUE FROM JOY STICK PORT#2
```

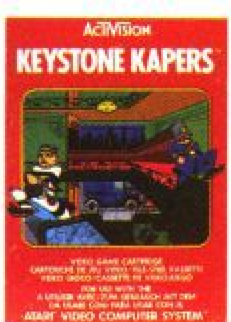
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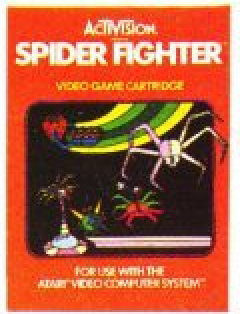
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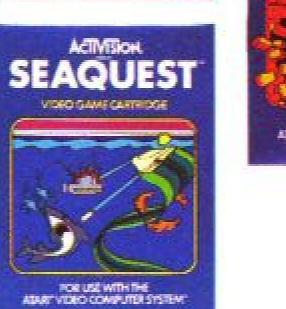


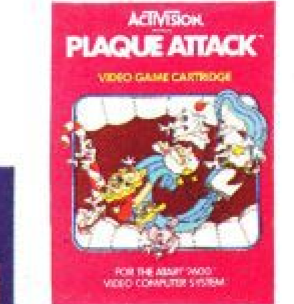


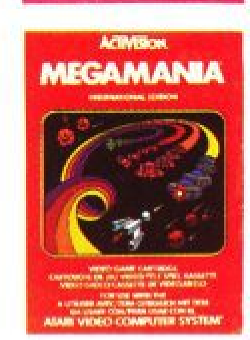












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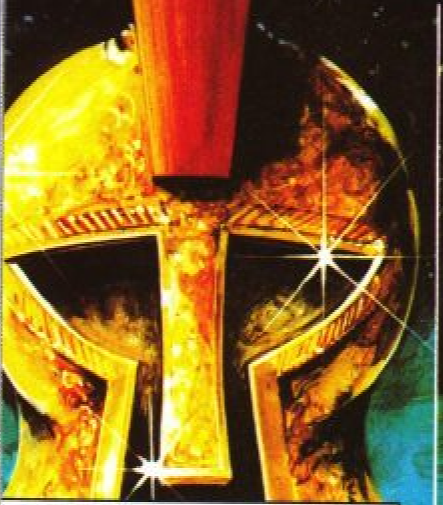
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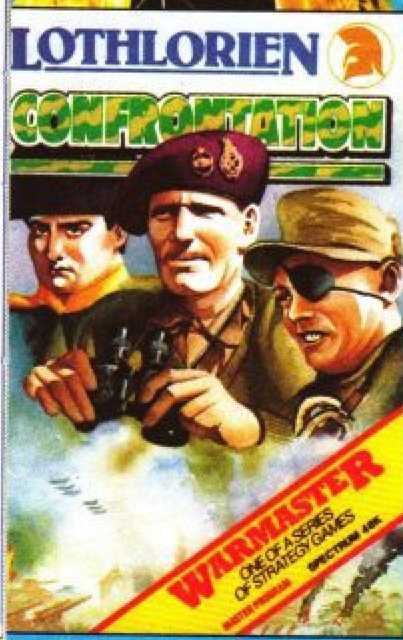
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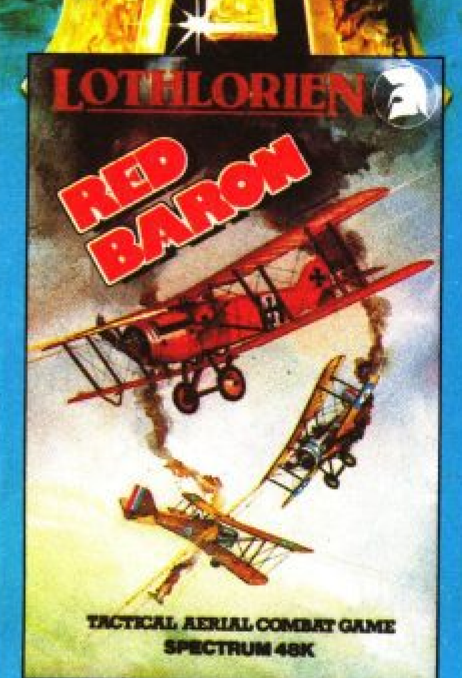
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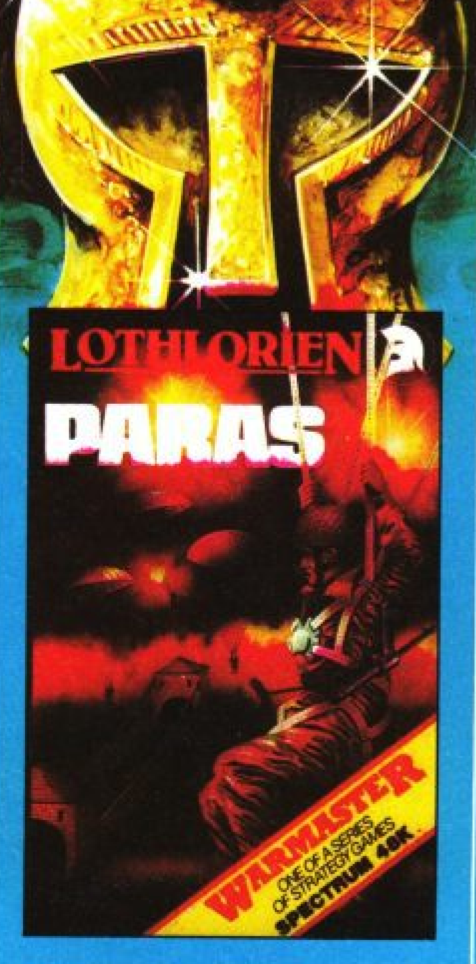
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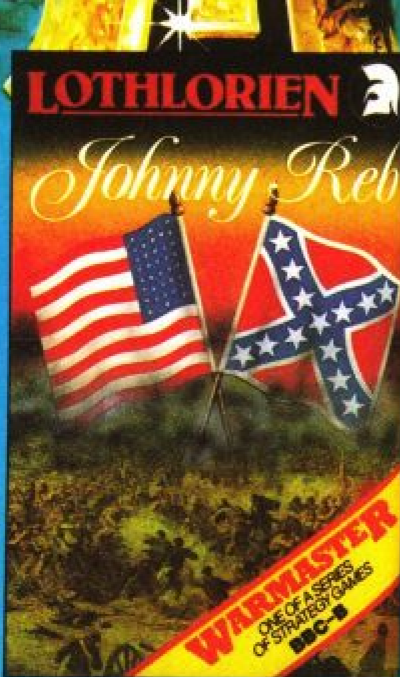












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	BBC-B	£6.95	☐
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```
100 CALL CLEAR
110 CALL SCREEN(2)
120 RANDOMIZE
130 REM  DEFINE CHAR'S
140 CALL CHAR(152."FF6060FFFF0606FF")
150 CALL CHAR(144."0103070F1F3F7FFF")
160 CALL CHAR(145."FFFFFFFFFFFFFFFF")
170 CALL CHAR(136."FEFEFEFEFEFEFEFE")
180 CALL CHAR(128."1824183C7E3C101C")
190 CALL CHAR(129."C324181830AA55AA")
200 CALL CHAR(120."183C997E3C3C2466")
210 CALL CHAR(112,"1824425A66816618")
220 CALL CHAR(113."1818181818181818")
230 CALL CHAR(104."0C0603FFFF03060C")
240 CALL CHAR(96."00347E7E3E7E3C")
250 CALL CHAR(40."00182420202418")
260 CALL CHAR(41."001824181C2C32")
270 CALL CHAR(42,"0041221408")
280 CALL CHAR(43."001824202E2418")
290 CALL CHAR(58."0101010101010101")
```

The bells . . . the bells!

Those famous cries signal the return of history's best known hunchback, Quasimodo. He's up to his old tricks of fighting the French authorities in order to save the life of the beautiful Esmerelda, who's hidden in the sanctuary of the cathedral's bell tower.

Notre Dame's walls and battlements are patrolled by armed guards and the government's own secret police are out for the poor hunchback's blood. You must help the cripple jump along the walls of the building and hopefully avoid falling into the clutches of the guards climbing up the outer walls.

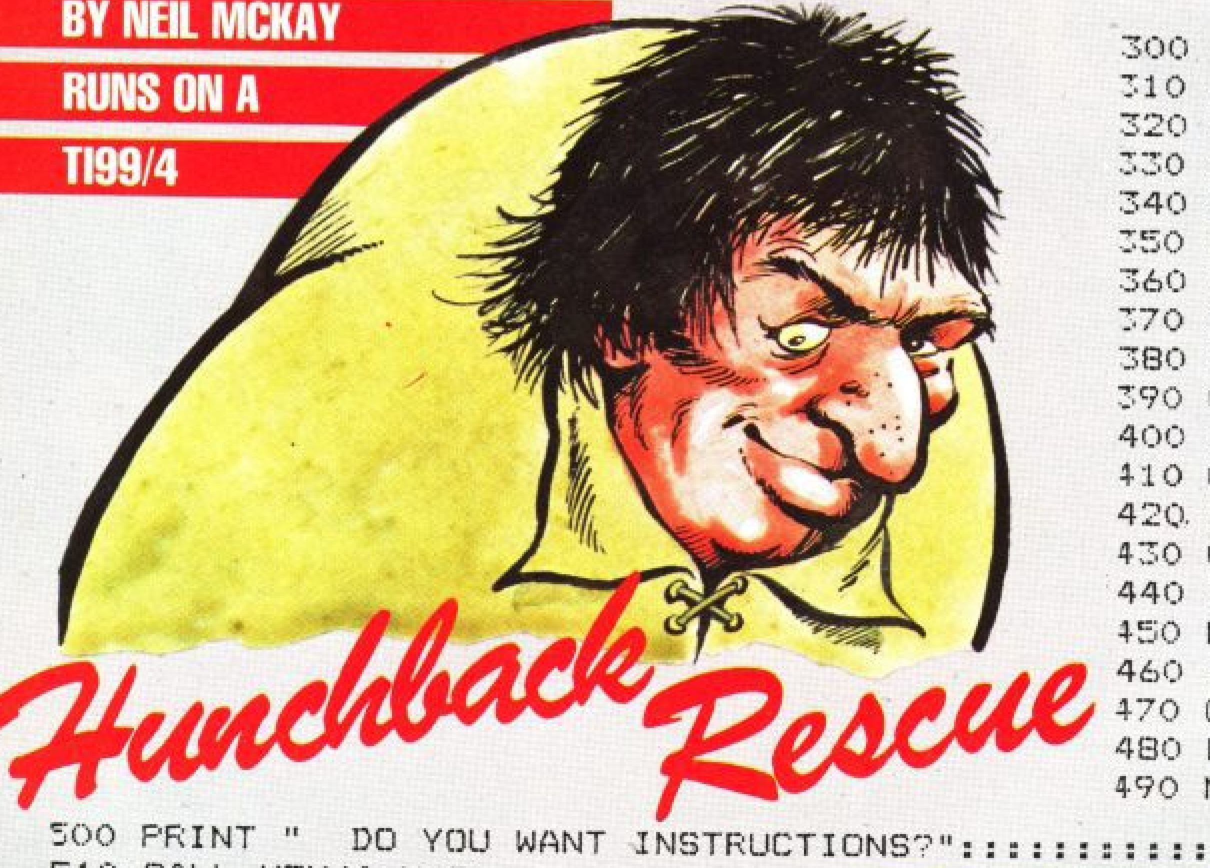
If you manage to guide Quasimodo over the wall without being shot by a poisoned arrow and ring the bell hanging at the far edge of the screen, the game will move on to the next sheet.

Quasi must clear five sheets without falling foul of the guards before he can rescue the fair Esmerelda.

Hunchback Rescue will run on any Texas computer without extended Basic. All the necessary instructions are included in the listing.

BY NEIL MCKAY

RUNS ON A TI99/4



Hunchback Rescue

```
300 CALL CHAR(33."1")
310 REM  DEFINE COLOUR
320 FOR X=1 TO 16
330 CALL COLOR(X.8.1)
340 NEXT X
350 CALL COLOR(16.7.11)
360 CALL COLOR(15,6.1)
370 CALL COLOR(14.15,2)
380 CALL COLOR(13.14.1)
390 CALL COLOR(12,2,11)
400 CALL COLOR(11,3.1)
410 CALL COLOR(10,3,1)
420 CALL COLOR(9,15,7)
430 CALL COLOR(2,9,16)
440 CALL COLOR(1,16,1)
450 M$="HUNCHBACK RESCUE"
460 Z=5
470 GOSUB 2710
480 FOR D=1 TO 500
490 NEXT D
500 PRINT "  DO YOU WANT INSTRUCTIONS?"::::::::::
510 CALL KEY(0,K,S)
520 IF S=0 THEN 510
530 IF K<>89 THEN 560
540 CALL CLEAR
550 GOSUB 2370
560 CALL CLEAR
570 CALL COLOR(12,2.11)
580 M$="INPUT SKILL LEVEL"
590 Z=5
600 GOSUB 2710
610 M$="[1 2 OR 3]  1=EASY"
620 Z=9
630 GOSUB 2710
640 CALL KEY(0,K,S)
650 IF S=0 THEN 640
660 IF (K<49)+(K>51)THEN 560
670 SK=K-46
680 CALL CLEAR
690 REM  SET UP SCREEN
700 FOR NST=1 TO 30
```

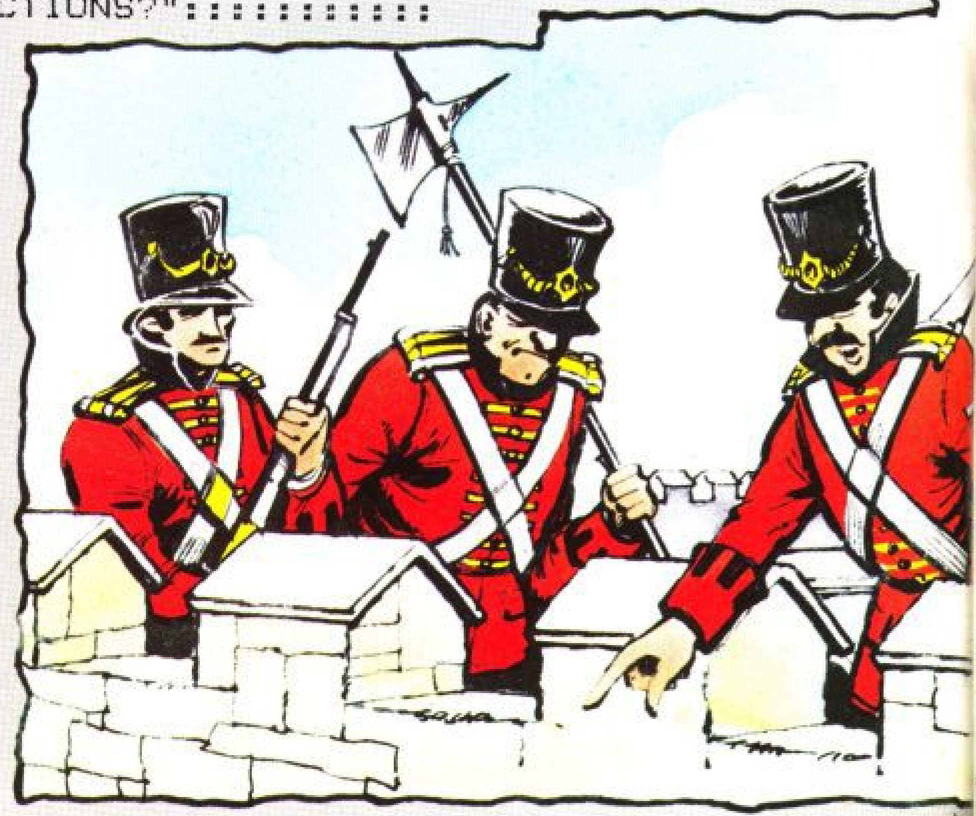
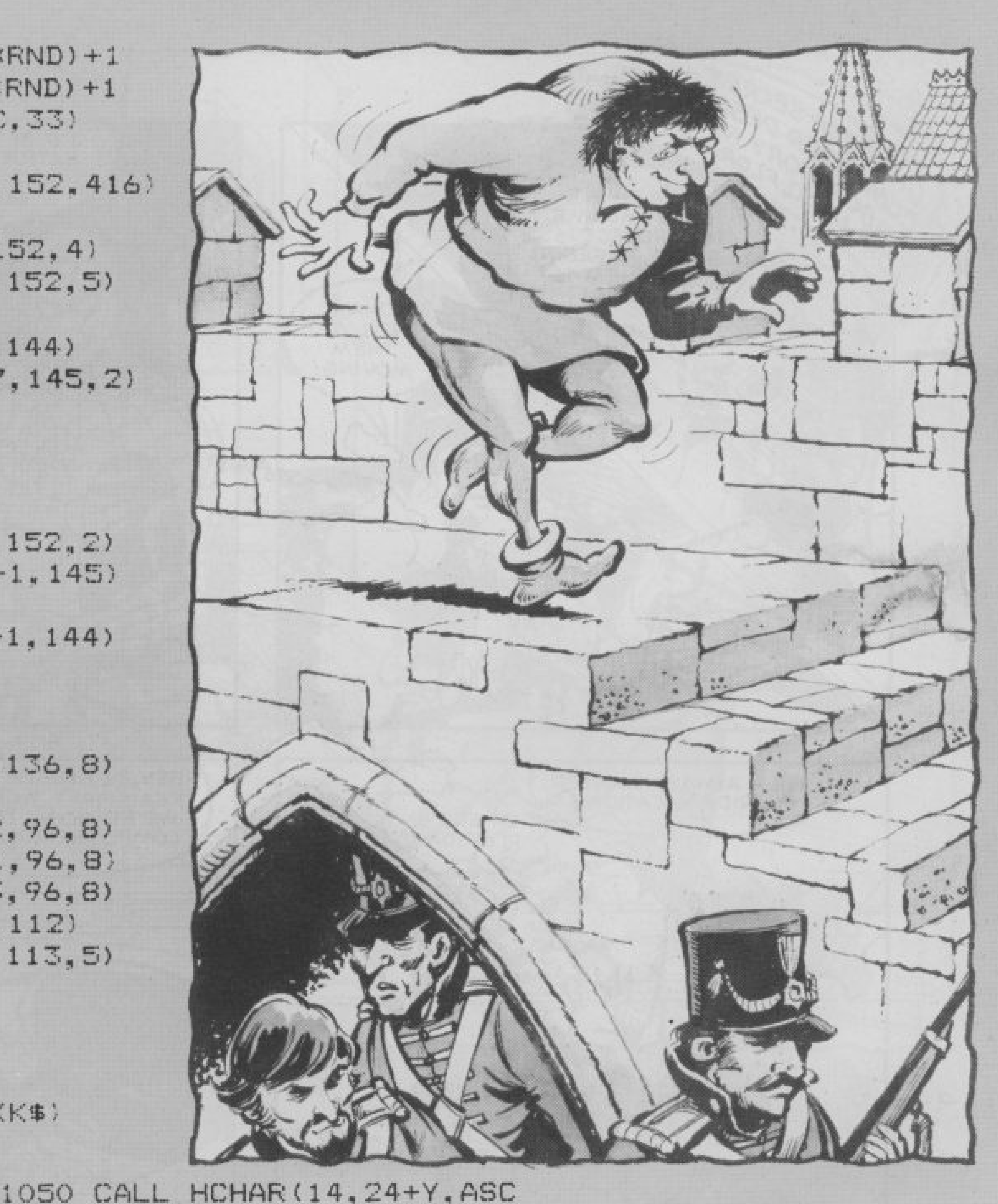
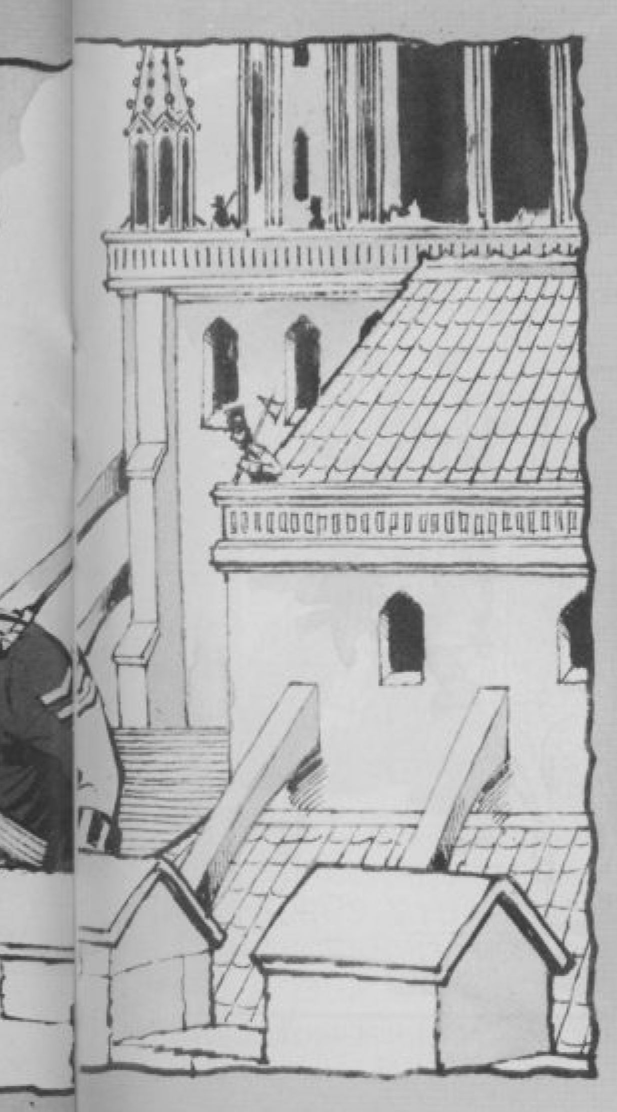


Illustration: Terry Rogers

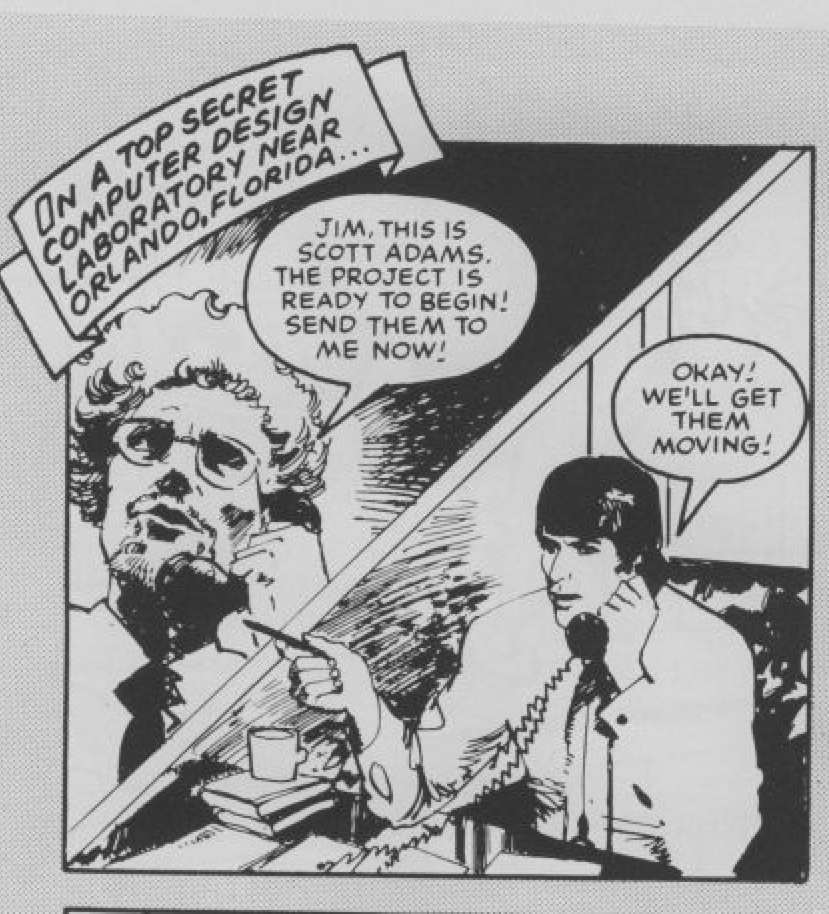
```
710 RR=INT((11-1+1)*RND)+1
720 CC=INT((32-1+1)*RND)+1
730 CALL HCHAR(RR,CC,33)
740 NEXT NST
750 CALL HCHAR(12,1,152,416)
760 FOR X=9 TO 11
770 CALL HCHAR(X,1,152,4)
780 CALL HCHAR(X,28,152,5)
790 NEXT X
800 CALL HCHAR(9,27,144)
810 CALL VCHAR(10,27,145,2)
820 RESTORE 910
830 FOR Z=1 TO 4
840 READ CL
850 FOR X=9 TO 11
860 CALL HCHAR(X,CL,152,2)
870 CALL HCHAR(X,CL-1,145)
880 NEXT X
890 CALL HCHAR(9,CL-1,144)
900 NEXT Z
910 DATA 8,13,18,23
920 FOR Z=17 TO 24
930 CALL HCHAR(Z,13,136,8)
940 NEXT Z
950 CALL VCHAR(17,12,96,8)
960 CALL VCHAR(17,21,96,8)
970 CALL HCHAR(16,13,96,8)
980 CALL HCHAR(2,30,112)
990 CALL VCHAR(4,30,113,5)
1000 SCREEN=1
1010 GOSUB 2150
1020 SCORE=0
1030 K$="SCORE"
1040 FOR Y=1 TO LEN(K$)
```





```
1050 CALL HCHAR(14,24+Y,ASC
(SEG$(K$,Y,1)))
1060 NEXT Y
1070 GOSUB 2780
1080 REM  SET UP GAME
1090 RN=8
1100 R=8
1110 C=2
1120 CALL HCHAR(R,C,128)
1130 A=24
1140 CALL HCHAR(A,3,120)
1150 CALL KEY(0,K,S)
1160 IF (RND*RN)>3 THEN 1180
1170 GOSUB 2000
1180 IF S=0 THEN 1150
1190 IF K=68 THEN 1240
1200 IF K=83 THEN 1340
1210 IF K=32 THEN 1450
1220 GOTO 1150
1230 REM  GUARD MOVE
1240 REM  MOVE MAN RIGHT
1250 CALL HCHAR(R,C,32)
1260 C=C+1
1270 CALL HCHAR(R,C,128)
1280 CALL GCHAR(R,C+1,CR)
1290 IF CR=128 THEN 2240
1300 IF CR=113 THEN 1790
```




ON A TOP SECRET COMPUTER DESIGN LABORATORY NEAR ORLANDO, FLORIDA...
JIM, THIS IS SCOTT ADAMS. THE PROJECT IS READY TO BEGIN! SEND THEM TO ME NOW!
OKAY! WE'LL GET THEM MOVING!


I'D BETTER BRING SOME EXTRA WEBBING! THIS LOOKS LIKE A BIGGY!


HULK ALWAYS WANTED FLORIDA VACATION!
WHERE'S FLORIDA ?!


BEN, GET READY FOR A REAL FIRST. THIS TIME WE'RE GOING ON A COMPUTER ADVENTURE!
BUT STRETCHO... I THOUGHT WE WAS GOING TO FLORIDA!?


BY THE EYE OF VISHANTI, I'VE BEEN MANY PLACES, BUT NOW I SEE THAT SCOTT ADAMS BECKONS AND I MUST GO!


MEANWHILE, BURIED DEEP IN A FLORIDA SWAMP...
LITTLE DO THOSE MARVEL CHARACTERS KNOW WHAT I REALLY HAVE PLANNED FOR THEM!

```
1310 CALL GCHAR(R+1,C,CW)
1320 IF CW=152 THEN 1150
1330 GOTO 1610
1340 REM  MOVE MAN LEFT
1350 CALL HCHAR(R,C,32)
1360 C=C-1
1370 IF C>2 THEN 1390
1380 C=2
1390 CALL HCHAR(R,C,128)
1400 CALL GCHAR(R,C+1,CR)
1410 IF CR=113 THEN 1790
1420 CALL GCHAR(R+1,C,CW)
1430 IF CW=152 THEN 1150
1440 GOTO 1610
1450 REM  MAN JUMP
1460 FOR V=1 TO 2
1470 CALL HCHAR(R,C,32)
1480 R=R-1
1490 C=C+1
1500 CALL HCHAR(R,C,128)
1510 NEXT V
1520 FOR V=1 TO 2
1530 CALL HCHAR(R,C,32)
1540 R=R+1
1550 C=C+1
1560 CALL HCHAR(R,C,128)
1570 NEXT V
1580 CALL GCHAR(R+1,C,CW)
1590 IF CW=152 THEN 1150
1600 GOTO 1610
1610 REM  MAN FALLS
1620 CALL HCHAR(R,C,32)
1630 FOR Z=9 TO 23
1640 CALL GCHAR(Z,C,CH)
1650 CALL HCHAR(Z,C,128)
1660 CALL HCHAR(Z,C,CH)
1670 NEXT Z
1680 CALL HCHAR(24,C,129)
1690 FOR V=0 TO 30
1700 CALL SOUND(-1000,-7,V)
1710 NEXT V
1720 M$="ANOTHER GAME? [Y OR N]"
1730 Z=1
1740 GOSUB 2710
1750 CALL KEY(0,K,S)
1760 IF S=0 THEN 1750
1770 IF K=89 THEN 560
1780 END
1790 REM  RING BELL
1800 CALL HCHAR(R,C,32)
1810 CALL HCHAR(R,C+1,128)
1820 FOR G=1 TO 3
1830 FOR V=0 TO 30
1840 CALL SOUND(-1000,400,V)
1850 NEXT V
1860 NEXT G
1870 SCREEN=SCREEN+1
1880 GOSUB 2150
1890 SCORE=SCORE+(A*10)
1900 GOSUB 2780
1910 IF SCREEN=5 THEN 2200
1920 CALL HCHAR(R,C+1,113)
```



```
1930 CALL HCHAR(A,3,152)
1940 C=2
1950 A=24
1960 CALL HCHAR(R,C,128)
1970 CALL HCHAR(A,3,120)
1980 RN=RN-SK
1990 GOTO 1150
2000 REM  MOVE GUARD
2010 CALL HCHAR(A,3,152)
2020 A=A-1
2030 CALL HCHAR(A,3,120)
2040 IF A=8 THEN 2060
2050 RETURN
2060 REM  FIRE ARROW
2070 CALL COLOR(12,11,2)
2080 FOR P=4 TO C-1
2090 CALL HCHAR(8,P,104)
2100 CALL HCHAR(8,P,32)
2110 NEXT P
2120 CALL HCHAR(8,C-1,104)
2130 CALL SOUND(100,-7,0)
2140 GOTO 1720
2150 K$="SCREEN: "&STR$(SCREEN)
2160 FOR Y=1 TO LEN(K$)
2170 CALL HCHAR(14,4+Y,ASC
(SEG$(K$,Y,1)))
2180 NEXT Y
2190 RETURN
2200 REM  LAST SCREEN
2210 CALL VCHAR(2,30,32,6)
```

```
2220 CALL HCHAR(8,30,128)
2230 GOTO 1930
2240 REM  RESCUE MAIDEN
2250 FOR L=11 TO 3 STEP -1
2260 CALL HCHAR(L,16,58)
2270 NEXT L
2280 CALL HCHAR(3,17,40)
2290 CALL HCHAR(3,18,41)
2300 CALL HCHAR(4,17,42)
2310 CALL HCHAR(4,18,43)
2320 CALL SOUND(200,370,4,440,4,294,4)
2330 CALL SOUND(600,392,3,494,3,294,3)
2340 CALL SOUND(200,392,2,494,2,294,2)
2350 CALL SOUND(800,294,1,440,1,370,1)
2360 GOTO 1720
2370 REM  INSTRUCTIONS
2380 CALL COLOR(12,11,1)
2390 M$="HUNCHBACK RESCUE"
2400 Z=3
2410 GOSUB 2710
2420 M$="YOU ARE QUAZIMODO  "&CHR$(128)
2430 Z=7
2440 GOSUB 2710
2450 M$="YOU MOVE YOUR MAN WITH"
2460 Z=9
2470 GOSUB 2710
2480 M$="'S' FOR LEFT"
2490 Z=11
2500 GOSUB 2710
2510 M$="'D' FOR RIGHT"
2520 Z=13
2530 GOSUB 2710
2540 M$="SPACE BAR TO JUMP"
2550 Z=15
2560 GOSUB 2710
2570 M$="BEWARE OF THE GUARD   "&CHR$(120)
2580 Z=17
2590 GOSUB 2710
2600 M$="WHO SCALES THE WALLS"
2610 Z=19
2620 GOSUB 2710
2630 M$="PRESS ANY KEY TO START"
2640 Z=24
2650 GOSUB 2710
2660 CALL KEY(0,K,S)
2670 IF S=0 THEN 2660
2680 CALL CLEAR
2690 CALL COLOR(12,2,11)
2700 RETURN
2710 REM  PRINT MESSAGE
2720 V=16-INT(LEN(M$)/2)
2730 FOR I=1 TO LEN(M$)
2740 CD=ASC(SEG$(M$,I,1))
2750 CALL HCHAR(Z,V+I,CD)
2760 NEXT I
2770 RETURN
2780 REM  PRINT SCORE
2790 K$=STR$(SCORE)
2800 FOR Y=1 TO LEN(K$)
2810 CALL HCHAR(16,24+Y,ASC(SEG$(K$,Y,1)))
2820 NEXT Y
2830 RETURN
```

Hints on Conversions

Although TI basic is fairly standard, it does contain some rather unusual commands. In the most part they are prefixed by the command CALL:

CALL CLEAR: Clears the screen, represented on most as CLS.
CALL SCREEN: Changes the colour of screen background.
CALL COLOUR: Determines the colours of individual characters.
CALL HCHAR: Used to place a character horizontally on the screen. Replaced by POKE or PRINT on other computers.
CALL VCHAR: Similar to HCHAR but places the character vertically.
CALL KEY: The TI basic's version of GET or INKEY.
CALL CHAR: A command to create a user defined character.

Variables

The four main variables used throughout the program are:-
R — Horizontal position of Quasimodo.
C — Vertical position of Quasimodo.
A — Vertical position of the guard.
SCORE — Total scored during the game.

martech games ...a spectacular range of software

BLASTERMIND — **SPECTRUM 48k £5.95**



At first glance this might seem to be just another version of a very popular game. How wrong can you be!!! True, the start is simple enough. The Spectrum picks a code of numbers or colours with a selection of levels of difficulty — and invites you to do the same. You then take it in turns to guess each others code from the clue supplied after each guess. An extremely well written, fast and very clearly displayed game, with almost inevitable defeat.

This was exactly as intended but unfortunately *something went wrong*. During the programming strange uncomplimentary messages began to appear on the screen. At first they were so few they were not taken too seriously, but soon they could no longer be ignored. Somehow the Spectrum had been given a personality — a rather devious, supercilious, dislikeable, hateful, horrible mind.

✱ Side B contains a version of the game compatible with the excellent Currah µSpeech unit — even worse!! ✱

THE QUEST OF MERRAVID — **VIC 20 (16k) £7.95 or Commodore 64 £7.95**



A really challenging and enjoyable adventure, written by a confirmed adventure addict who grew tired of the ease with which he solved other adventures himself. Will accept and act on sentences containing up to nine words.

The adventurer becomes Merravid, charged with the task of finding, taking and then returning the magic Firestone of the Dwarves. However, overcoming the many novel and original hazards is no easy matter. Careful and imaginative thought is required if progress is to be made and the Firestone tracked down to the lair of the Dragon of Thargon. Even then the Dragon has to be defeated and the stone retrieved. A compulsive, extremely enjoyable and very user friendly adventure.

WARNING!

With reviews like this "Scuba Dive" is likely to take up a lot of your time.

". . . This fabulous underwater world, Scuba Dive is very, very special. The creatures are wonderful to behold and frighteningly real."
(Personal Computer Games March 1984)

". . . The graphics are fantastic — immensely addictive — it should probably be banned before it has time to take off".
(Crash Micro March 1984)

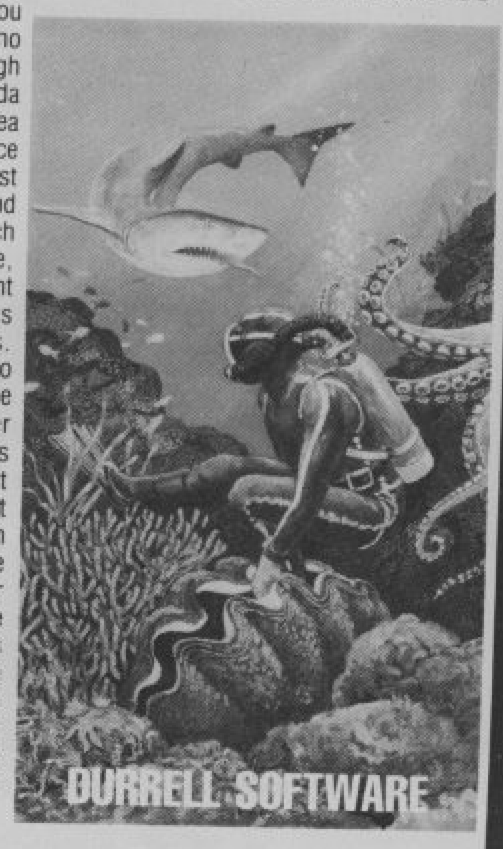
". . . Truly spectacular graphics"
(Your Computer March 1984)

". . . The effect of underwater diving is achieved so well that you could imagine you are walking into the perils of the deep"
(Sinclair User March 1984)

". . . Superb graphics and animation — in our home the game was constantly being loaded in."
(Popular Computing Weekly February 1984)

SCUBA DIVE — **COMMODORE 64 £6.95, any ORIC - 1 £6.95, SPECTRUM 48k £5.95**

Pure machine code with super cartoon graphics. You are in control of a diver who must swim down through jellyfish, sharks, barracuda and a host of other under-sea nasties to locate the entrance of a submarine cave. He must then follow its twisting and branching passages which change with every new game, to locate the magical giant oysters with their fabulous treasure of enormous pearls. Many of the passages lead to dead-ends, while some are filled with horrible underwater monsters. Each dive has to be timed carefully so that there is enough oxygen left for the return journey, which is further frustrated by the diver's boat shifting anchor and threatening to decapitate him with its propellor. This game which features three divers, player score, high score, hall of fame and sound effects, presents perhaps the ultimate epic arcade adventure.



—ALSO— AVAILABLE

JUNGLE TROUBLES — frustrating, addictive, funny, silly. Come back Tarzan — all is forgiven! SPECTRUM **£5.95**
GALAXY 5 — five games on one tape for any ORIC - 1 **£6.95**
STARFIGHTER — Strategic arcade action. Pure machine code for any ORIC-1 **£6.95**
HARRIER ATTACK — pure machine code. Arcade action for any Oric — 1 or Commodore 64 £6.95. Spectrum — £5.95.

Most games available from
W. H. Smith, Laskys, Greens, Boots, Spectrum Centres, Martins, Computer for All Shops and many other retail outlets.
Prices include VAT, Post and Packing

Mail order to: MARTECH HOUSE, BAY TERRACE, PEVENSEY BAY, EAST SUSSEX BN24 6EE
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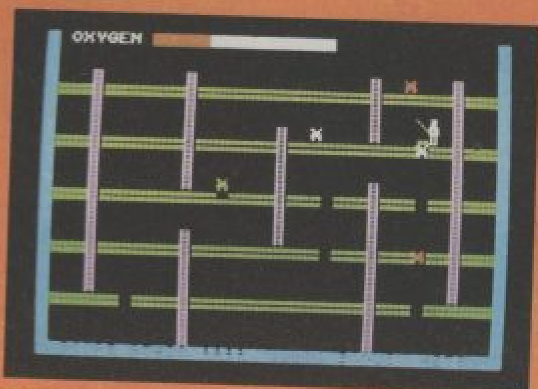
No.	GAME	MANUFACTURER	MACHINE
1	Manic Miner	Software Projects	Commodore 64
2	Atic Atac	Ultimate	Spectrum
3	Ant Attack	Quicksilva	Spectrum
4	Hunchback	Ocean	Spectrum
5	Fighter Pilot	Digital	Spectrum
6	Manic Miner	Software Projects	Spectrum
7	Hobbit	Melbourne House	Spectrum
8	Pole Position	Atari	Atari
9	Mr. Wimpey	Ocean	Spectrum
10	Revenge of the Mutant Camels	Llamasoft	Commodore 64
11	Snooker	Visions	BBC
12	Hovver Bovver	Llamasoft	Commodore 64
13	Super Pipeline	Taskset	Commodore 64
14	Scramble	Microdeal	TRS 80 Colour
15	Super Cobra	Parker	Atari
16	Alchemist	Imagine	Spectrum
17	Lunar Jet Man	Ultimate	Spectrum
18	Jet Pac	Ultimate	Spectrum
19	Chequered Flag	Sinclair	Spectrum
20	Harrier Attack	Durrell	Spectrum
21	Manic Miner	Bugbyte	Spectrum
22	Asteroids	Atari	Atari
23	Pilot 64	Abbex	Commodore 64
24	Hunchback	Superior Software	BBC
25	Fred	Quicksilva	Spectrum
26	Crazy Kong	Interceptor	Commodore 64
27	Invaders	Sinclair	Spectrum
28	Kong	Sinclair	Spectrum
29	Scuba Dive	Durrell	Spectrum
30	Twin Kingdom Valley	Bug Byte	BBC

A SUPERB RANGE OF GAMES SOFTWARE FOR SHARP MZ-700 SERIES



FROGGER — £6.95

This most popular of arcade games has been totally recreated for the Sharp computer. Superb graphics and as fast as you like from beginner's level up to 'Super-human'. Get each of four frogs over the busy motorway, then hop from boat to raft to log to crocodile until safely home sitting on a lily pad. Terrific fun.



SPACE PANIC — £7.95

How long can you survive in the multi-storey building filled with alien bugs. This machine-code programme accurately simulates the arcade game where you climb ladders and dig holes to catch the aliens then fill them in again once they are caught. The red ones must fall through one floor, the green ones, two floors and white ones, three floors. Red aliens who have time to dig themselves out get rather cross and become green. PANIC!! Joy stick or keyboard control.



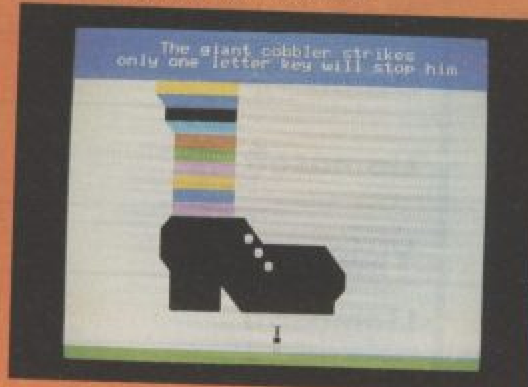
GALAXIANS — £7.95

A high-speed machine-code version of the popular arcade game where the massed space invaders must be cleared from the skies. After a few seconds they will begin to swoop and dive at you, showering you with scatter bombs as they go. The game becomes progressively more demanding as you kill more and more of the marauding aliens. Very entertaining — hours of fun!!! Joy stick or keyboard control.



BACKGAMMON — £7.95

Now available for the MZ-700, this traditional board game can now be played against the computer. Simple to follow instructions for the beginner — higher levels available for the more experienced player.



NIGHTMARE PARK — £6.95

If you have never played this type of game before, you're in for a treat. As you make your way along the intricate pathways to the exit, you are constantly given tasks to perform or games to play. Each of these must be successfully completed before you are allowed to continue. It takes a lot of doing. You must remain quick and alert at all times. A little luck is handy. Amazing graphics and sounds!!!



FIGHTER COMMAND — £6.95

A mission flown completely on instruments where you are pursuing a fleet of ten enemy aircraft fleeing from you. They will show on your long range radar screen and you must manoeuvre your craft to get them within range of your missiles. If you get too near, they will fire at you and warp away to safety. You only have one chance to destroy incoming missiles with your lasers.



CHESS — £9.95

Suitable for the rank beginner through to the more experienced player, this Chess program may be used in three different ways.

1. As a referee between two players, checking for valid moves, CHECK and CHECKMATE situations.
2. As an opponent with 14 levels of intelligence to match your skills.
3. As a teaching aid when asked to play against itself or show you the best move if you get into difficulties.

Long games may be saved on cassette for completion at a later time and a print-out of all moves made is available.



XANAGRAMS — £9.95

Not only a terrific spelling test but also a great game. You are asked to guess up to five words, represented by blocks on the screen in a crossword format. All the letters that you need are shown on the right of the screen in alphabetical order and the computer will give you the first letter if you ask it nicely. Suits almost any age with 3 skill levels and from 1 to 5 words to be guessed. Really habit-forming!!!



LIGHTNING PATROL — £3.95

Choose your rank in the RAF and you are immediately sent on a mission to catch and shoot down ten enemy Mirage jets that are fleeing after their attack on your airbase. You must manoeuvre your plane to get them in your gun-sights whilst they are weaving about the sky to avoid being hit. Limited ammunition and fuel available so efficiency and accuracy are all important to your completion of the mission. Promotion for the successful but poor performances can mean you are asked to leave the air force. Joy stick or keyboard control.

PLUS AN EXTENSIVE RANGE OF OVER 100 GAMES, BUSINESS AND EDUCATIONAL SOFTWARE FOR THE SHARP MZ 700 SERIES—FREE COLOUR CATALOGUE AVAILABLE

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MASTER — KINGS & QUEENS — MAP OF UK — MATHS QUEST — A

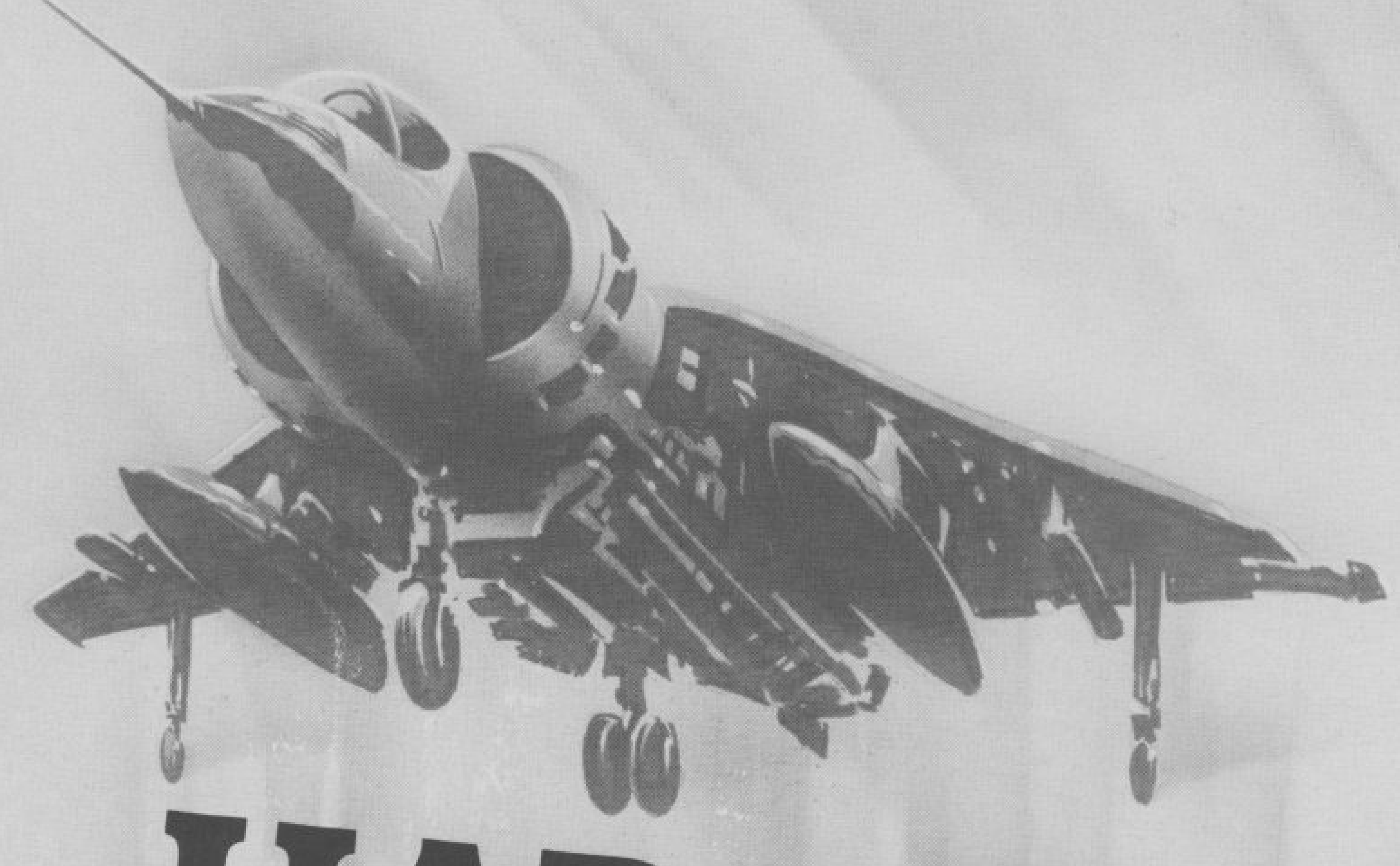


PLAIN — GLOBAL WAR III — FIGHTER COMMAND — FROGGER —
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HARRIER

Peter Hextal has re-created a piece of recent aviation history on his BBC micro. Harrier stages the near disaster in the Atlantic - when a harrier pilot lost in thick fog during manoeuvres near the Spanish coast made a desperate attempt to land his jump jet on a cargo ship's deck.

The landing was a miracle and it was only the pilot's bravery and skill that prevented the 14 million pound plane plunging into the sea.

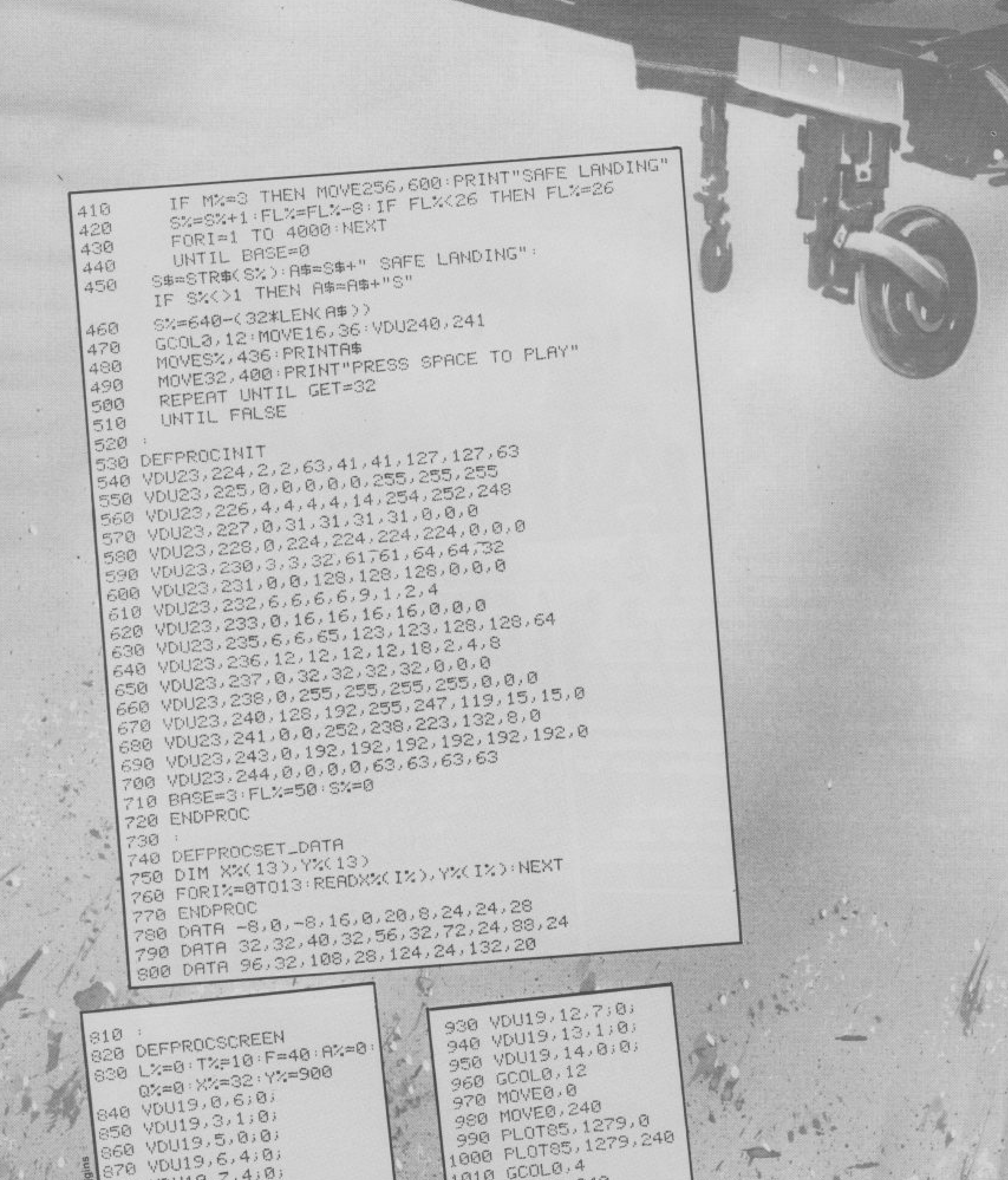
*The game puts you into a very similar position. The Z, X, *, and ; keys are used to move the plane in the correct directions to complete a perfect landing.*

BY PETER HEXTAL

RUNS ON A BBC MODEL B IN 32K

```
10 :
20 PROCSET_DATA
30 REPEAT
40   MODE7
50   PROCINSTRUC
60   MODE2
70   PROCINIT
80   REPEAT
90     CLS
100    PROCSCREEN
110    R%=Q%+RND((1008-Q%)/8)*8
120    FORJ%=Q% TO R% STEP 8
130      PROCFUEL
140      IF F<=0 AND T%>0 THEN PROCNOFUEL
150      PROCKEYS
160      PROCFLIGHT
170      PROCCHECK
180      IF L%>0 THEN O%=J%:J%=R%:GOTO210
190      MOVE J%,500
200      VDU18,3,12,230,231,9,232,8,8,8,
         18,3,13,233,9,233
210      NEXT
220    IFL%>0 THEN J%=0%:GOTO360
230    Q%=RND(R%/8)*8
240    FORJ%=R%+8 TO Q%+8 STEP -8
250      PROCFUEL
260      IF F<=0 AND T%>0 THEN PROCNOFUEL
270      PROCKEYS
280      PROCFLIGHT
290      PROCCHECK
300      IF L%>0 THEN O%=J%:J%=Q%+8:GOTO330
310      MOVE J%,500
320      VDU18,3,12,235,9,9,236,8,8,8,18,3,13,237,9,237
330      NEXT
340    IFL%>0 THEN J%=0%:GOTO360
350    GOTO110
360    *FX15,1
370    IF L%=99 THEN MOVE320,600:PRINT"PLANE LOST":BASE=BASE-1:GOTO430
380    PROCFLIGHT
390    IFM%=0 THEN PROCCRASH:GOTO440
400    IF L%=13 AND T%<3 THEN MOVE384,640:PRINT"TOO FAST":PROCCRASH:GOTO440
```

Illustration: John Higgins

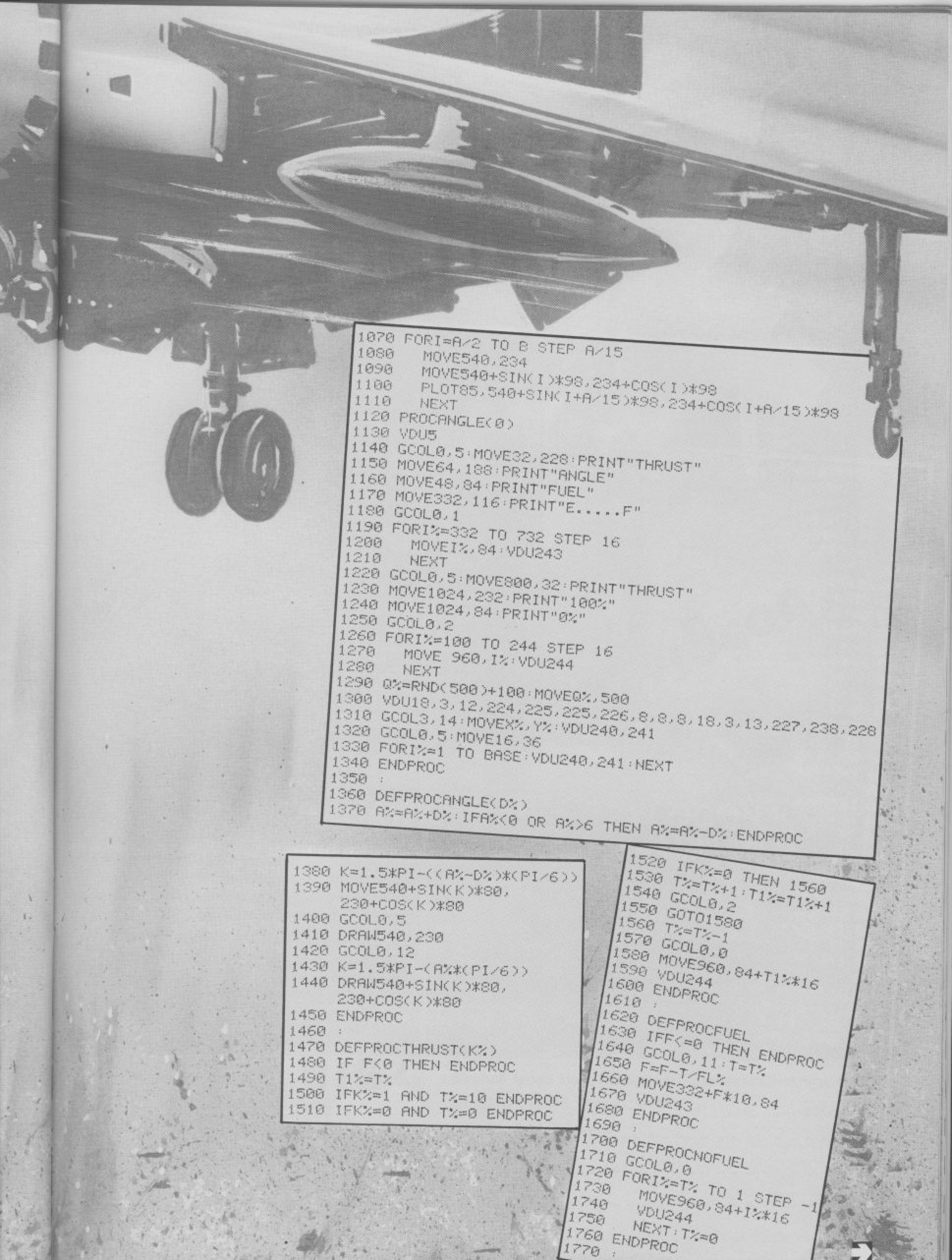


```
410      IF M%=3 THEN MOVE256,600:PRINT"SAFE LANDING"
420      S%=S%+1:FL%=FL%-8:IF FL%<26 THEN FL%=26
430      FORI=1 TO 4000:NEXT
440      UNTIL BASE=0
450    S$=STR$(S%):A$=S$+" SAFE LANDING":
       IF S%<>1 THEN A$=A$+"S"
460    S%=640-(32*LEN(A$))
470    GCOL0,12:MOVE16,36:VDU240,241
480    MOVES%,436:PRINTA$
490    MOVE32,400:PRINT"PRESS SPACE TO PLAY"
500    REPEAT UNTIL GET=32
510    UNTIL FALSE
520 :
530 DEFPROCINIT
540 VDU23,224,2,2,63,41,41,127,127,63
550 VDU23,225,0,0,0,0,0,255,255,255
560 VDU23,226,4,4,4,4,14,254,252,248
570 VDU23,227,0,31,31,31,31,0,0,0
580 VDU23,228,0,224,224,224,224,0,0,0
590 VDU23,230,3,3,32,61,61,64,64,32
600 VDU23,231,0,0,128,128,128,0,0,0
610 VDU23,232,6,6,6,6,9,1,2,4
620 VDU23,233,0,16,16,16,16,0,0,0
630 VDU23,235,6,6,65,123,123,128,128,64
640 VDU23,236,12,12,12,12,18,2,4,8
650 VDU23,237,0,32,32,32,32,0,0,0
660 VDU23,238,0,255,255,255,255,0,0,0
670 VDU23,240,128,192,255,247,119,15,15,0
680 VDU23,241,0,0,252,238,223,132,8,0
690 VDU23,243,0,192,192,192,192,192,192,0
700 VDU23,244,0,0,0,0,63,63,63,63
710 BASE=3:FL%=50:S%=0
720 ENDPROC
730 :
740 DEFPROCSET_DATA
750 DIM X%(13),Y%(13)
760 FORI%=0TO13:READX%(I%),Y%(I%):NEXT
770 ENDPROC
780 DATA -8,0,-8,16,0,20,8,24,24,28
790 DATA 32,32,40,32,56,32,72,24,88,24
800 DATA 96,32,108,28,124,24,132,20
```

```
810 :
820 DEFPROCSCREEN
830 L%=0:T%=10:F=40:A%=0:
    Q%=0:X%=32:Y%=900
840 VDU19,0,6;0;
850 VDU19,3,1;0;
860 VDU19,5,0;0;
870 VDU19,6,4;0;
880 VDU19,7,4;0;
890 VDU19,8,4;0;
900 VDU19,9,4;0;
910 VDU19,10,4;0;
920 VDU19,11,3;0;
```

```
930 VDU19,12,7;0;
940 VDU19,13,1;0;
950 VDU19,14,0;0;
960 GCOL0,12
970 MOVE0,0
980 MOVE0,240
990 PLOT85,1279,0
1000 PLOT85,1279,240
1010 GCOL0,4
1020 MOVE0,240
1030 PLOT85,1279,468
1040 PLOT85,0,468
1050 A=PI:B=A+PI/2
1060 GCOL0,5
```

Illustration: John Higgins



```
1070 FORI=A/2 TO B STEP A/15
1080   MOVE540,234
1090   MOVE540+SIN(I)*98,234+COS(I)*98
1100   PLOT85,540+SIN(I+A/15)*98,234+COS(I+A/15)*98
1110   NEXT
1120 PROCANGLE(0)
1130 VDU5
1140 GCOL0,5:MOVE32,228:PRINT"THRUST"
1150 MOVE64,188:PRINT"ANGLE"
1160 MOVE48,84:PRINT"FUEL"
1170 MOVE332,116:PRINT"E.....F"
1180 GCOL0,1
1190 FORI%=332 TO 732 STEP 16
1200   MOVEI%,84:VDU243
1210   NEXT
1220 GCOL0,5:MOVE800,32:PRINT"THRUST"
1230 MOVE1024,232:PRINT"100%"
1240 MOVE1024,84:PRINT"0%"
1250 GCOL0,2
1260 FORI%=100 TO 244 STEP 16
1270   MOVE 960,I%:VDU244
1280   NEXT
1290 Q%=RND(500)+100:MOVEQ%,500
1300 VDU18,3,12,224,225,225,226,8,8,8,18,3,13,227,238,228
1310 GCOL3,14:MOVEX%,Y%:VDU240,241
1320 GCOL0,5:MOVE16,36
1330 FORI%=1 TO BASE:VDU240,241:NEXT
1340 ENDPROC
1350 :
1360 DEFPROCANGLE(D%)
1370 A%=A%+D%:IFA%<0 OR A%>6 THEN A%=A%-D%:ENDPROC
```

```
1380 K=1.5*PI-((A%-D%)*(PI/6))
1390 MOVE540+SIN(K)*80,
     230+COS(K)*80
1400 GCOL0,5
1410 DRAW540,230
1420 GCOL0,12
1430 K=1.5*PI-(A%*(PI/6))
1440 DRAW540+SIN(K)*80,
     230+COS(K)*80
1450 ENDPROC
1460 :
1470 DEFPROCTHRUST(K%)
1480 IF F<0 THEN ENDPROC
1490 T1%=T%
1500 IFK%=1 AND T%=10 ENDPROC
1510 IFK%=0 AND T%=0 ENDPROC
```

```
1520 IFK%=0 THEN 1560
1530 T%=T%+1:T1%=T1%+1
1540 GCOL0,2
1550 GOTO1580
1560 T%=T%-1
1570 GCOL0,0
1580 MOVE960,84+T1%*16
1590 VDU244
1600 ENDPROC
1610 :
1620 DEFPROCFUEL
1630 IFF<=0 THEN ENDPROC
1640 GCOL0,11:T=T%
1650 F=F-T/FL%
1660 MOVE332+F*10,84
1670 VDU243
1680 ENDPROC
1690 :
1700 DEFPROCNOFUEL
1710 GCOL0,0
1720 FORI%=T% TO 1 STEP -1
1730   MOVE960,84+I%*16
1740   VDU244
1750   NEXT:T%=0
1760 ENDPROC
1770 :
```

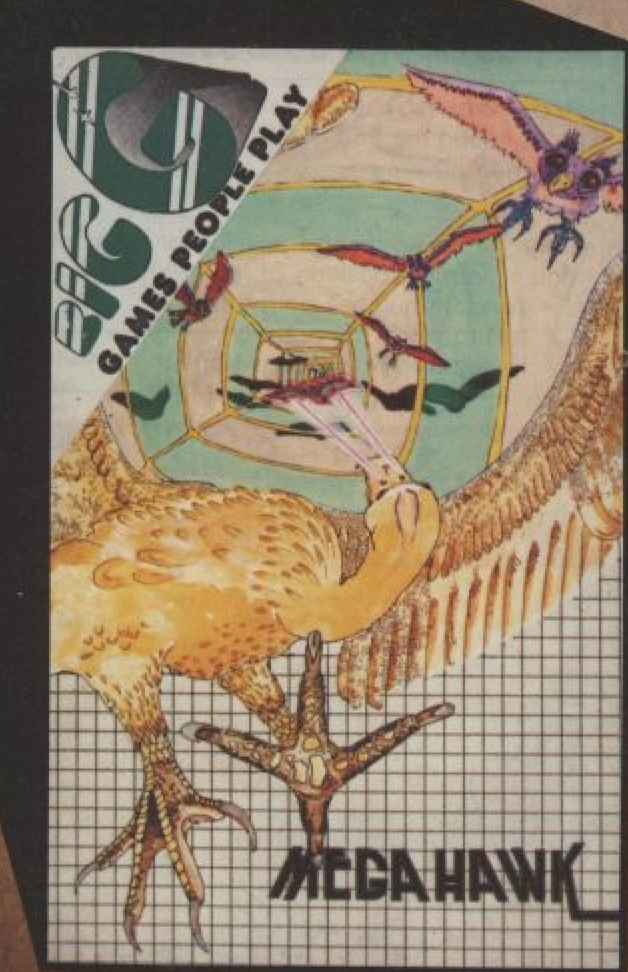
```
1780 DEFPROCKEYS
1790 IF INKEY(-73)=-1  PROCTHRUST(1)
1800 IF INKEY(-105)=-1 PROCTHRUST(0)
1810 IF INKEY(-98)=-1  PROCANGLE(-1)
1820 IF INKEY(-67)=-1  PROCANGLE(1)
1830 ENDPROC
1840 :
1850 DEFPROCFLIGHT
1860 Y1%=Y%:X1%=X%:H%=ABS(3-A%)
1870 G=10-T%+(3-H%)
1880 V=4*INT((T%*(3-H%)-G)/4)
1890 Y%=Y%+V
1900 B=8*INT((2*(T%*(3-A%)+H%))/4)/8
1910 X%=X%+B
1920 GCOL3,14
1930 MOVEX1%,Y1%:VDU240,241
1940 MOVEX%,Y%:VDU240,241
1950 IF X%>1279 OR X%<-128 OR Y%>1055 THEN L%=99
1960 SOUND&10,-T%,14,20
1970 ENDPROC
1980 :
1990 DEFPROCCHECK
2000 N%=1:M%=0:L%=0
2010 IF X%<-128 OR X%>1279 OR Y%>1055 THEN L%=99
2020 IFY%>540 THEN ENDPROC
2030 FORI%=0TO13:L%=POINT(X%+X%(I%),Y%-Y%(I%))
2040   IF L% >0 THEN N%=2:I%=20
2050   NEXT
2060 IF N%<>2 OR L%<>13 THEN ENDPROC
2070 Z=(X%+40)-104
2080 IF Z-J%<60 AND Z-J%>0 THEN M%=3
2090 ENDPROC
2100 :
2110 DEFPROCCRASH
2120 SOUND&10,-15,14,50
2130 PROCNOFUEL
2140 BASE=BASE-1
2150 GCOL0,14:MOVE224,600
2160 IF L%=4 THEN PRINT"PLANE DITCHED"
     ELSE MOVE 192,600:PRINT"SHIP COLLISION"
2170 I%=0:PROCDEL
2180 FORI%=4 TO 56 STEP 4
2190   PROCDEL
2200   FORK%=0 TO 1000:NEXT
2210   PROCDEL
2220   NEXT
2230 ENDPROC
2240 :
```

```
2250 DEFPROCDEL
2260 IFL%=4 THEN2290
2270 MOVEJ%,500-I%
2280 VDU18,3,12,224,225,225,226,8,8,
     8,18,3,13,227,238,228
2290 MOVEX%,Y%-I%
2300 VDU18,3,14,240,241
2310 ENDPROC
2320 :
2330 DEFPROCINSTRUC
2340 FORI%=0 TO 1:PRINTTAB(12);
     CHR$141CHR$129;"HARRIER":NEXT
2350 PRINT
2360 PRINTCHR$130;"TRY TO LAND THE
     JUMP-JET ON THE SHIP'S"
2370 PRINTCHR$130;"CONTAINERS."
2380 PRINT
2390 PRINTCHR$131;" YOUR
     CONTROLS:-"
2400 PRINTCHR$133;"    ANGLE OF
     ROTATIONAL-JETS"
2410 PRINTTAB(18);CHR$134;"INCREASE
     - X"
2420 PRINTTAB(18);CHR$134;"DECREASE
     - Z"
2430 PRINT
2440 PRINTCHR$133;"     ROTATIONAL
     -JETS POWER OUTPUT"
2450 PRINTTAB(18);CHR$134;"INCRE
     ASE - *"
2460 PRINTTAB(18);CHR$134;"DECRE
     ASE - /"
2470 PRINTTAB(8,18);"PRESS";CHR$136;
     "SPACE";CHR$137;"TO START"
2480 REPEATUNTIL GET=32
2490 ENDPROC
```

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Land lovers beware — this game could make you very sea sick!

There's mutiny aboard the ship. The crew have rebelled against your cruel and tyrannical regime. Half starved and beaten to within inches of death, the crew have taken you and the rest of the officers prisoner. The crew are preparing your demise and have already nailed a plank to the ship's deck.

The men have decided to prolong your agony by asking you questions. Each question you answer wrongly means one more step nearer Davey Jones's locker. Each correct one and you can return to the relative safety of the deck.

The game features animated graphics, including the captain of the ship and sword-waving mutineers.

To save the game onto tape just break into the program and type GOTO 5200.

Program notes

In the listing the line 0 is formed by typing in Poke 16510,0 and then newline.

Variables

along = the horizontal position of the captain
man = vertical position of the captain
a = random number generated
z = test to see if the number is high or low
y = to see if the number is correct

RUNS ON ZX81 IN 16K

BY PETER BEEBE



Illustration: Dorian Cross.



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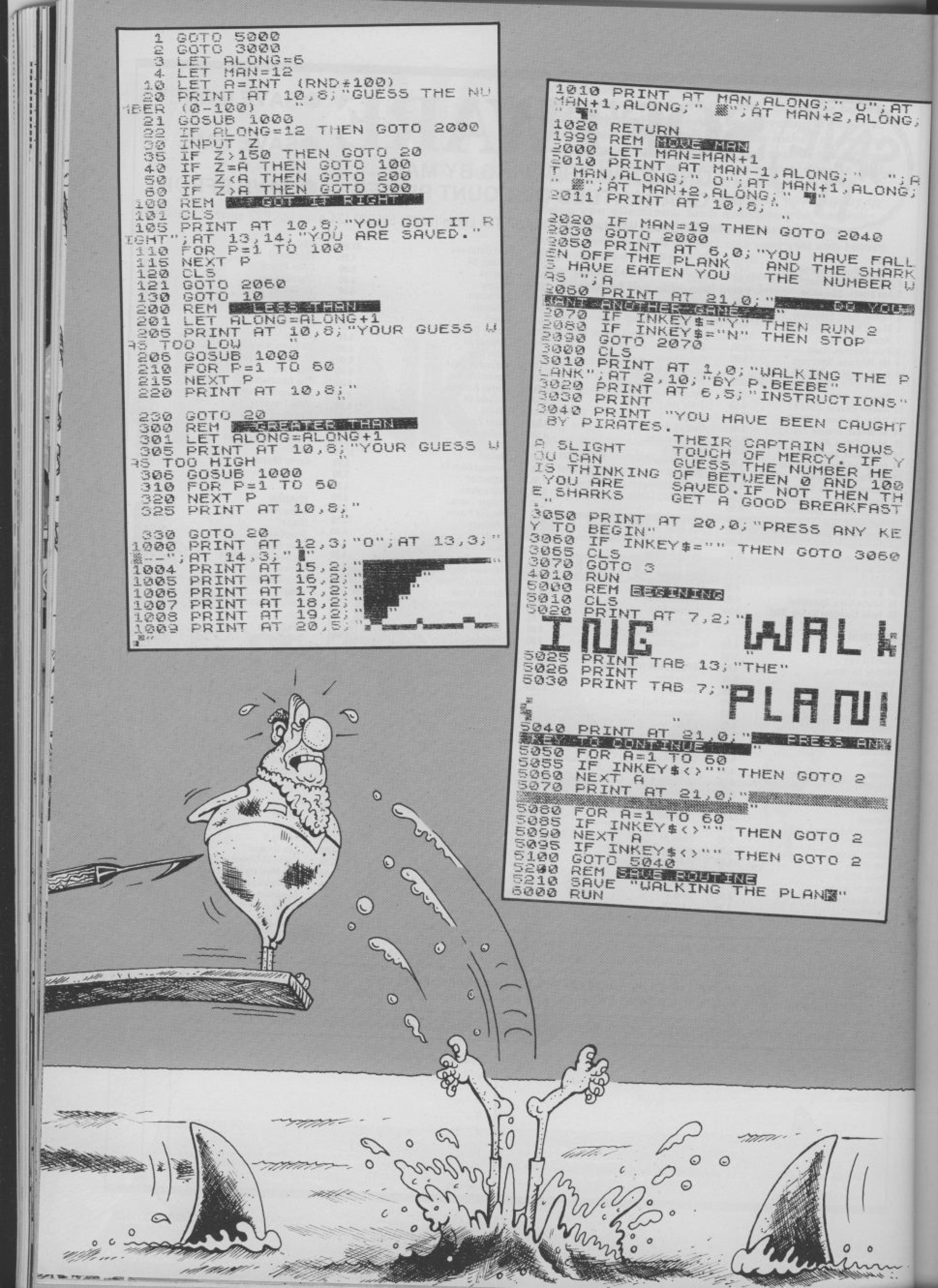
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```
   1 GOTO 5000
   2 GOTO 3000
   3 LET ALONG=6
   4 LET MAN=12
  10 LET A=INT (RND*100)
  20 PRINT AT 10,8;"GUESS THE NU
MBER (0-100)       "
  21 GOSUB 1000
  22 IF ALONG=12 THEN GOTO 2000
  30 INPUT Z
  35 IF Z>150 THEN GOTO 20
  40 IF Z=A THEN GOTO 100
  50 IF Z<A THEN GOTO 200
  60 IF Z>A THEN GOTO 300
 100 REM  GOT IT RIGHT
 101 CLS
 105 PRINT AT 10,8;"YOU GOT IT R
IGHT";AT 13,14;"YOU ARE SAVED."
 110 FOR P=1 TO 100
 115 NEXT P
 120 CLS
 121 GOTO 2060
 130 GOTO 10
 200 REM  LESS THAN
 201 LET ALONG=ALONG+1
 205 PRINT AT 10,8;"YOUR GUESS W
AS TOO LOW         "
 206 GOSUB 1000
 210 FOR P=1 TO 60
 215 NEXT P
 220 PRINT AT 10,8;"
                   "
 230 GOTO 20
 300 REM  GREATER THAN
 301 LET ALONG=ALONG+1
 305 PRINT AT 10,8;"YOUR GUESS W
AS TOO HIGH        "
 306 GOSUB 1000
 310 FOR P=1 TO 50
 320 NEXT P
 325 PRINT AT 10,8;"
                   "
 330 GOTO 20
1000 PRINT AT 12,3;"O";AT 13,3;"
▒--";AT 14,3;"█"
1004 PRINT AT 15,2;"████████████"
1005 PRINT AT 16,2;"███████"
1006 PRINT AT 17,2;"██████"
1007 PRINT AT 18,2;"█████"
1008 PRINT AT 19,2;"████"
1009 PRINT AT 20,5;"▀▀▀▀▀▀▀▀▀▀▀
▀"
```

```
1010 PRINT AT MAN,ALONG;" O";AT
MAN+1,ALONG;" ▒";AT MAN+2,ALONG;
" ▀"
1020 RETURN
1999 REM MOVE MAN
2000 LET MAN=MAN+1
2010 PRINT AT MAN-1,ALONG;"  ";A
T MAN,ALONG;" O";AT MAN+1,ALONG;
" ▒";AT MAN+2,ALONG;" ▀"
2011 PRINT AT 10,8;"
                   "
2020 IF MAN=19 THEN GOTO 2040
2030 GOTO 2000
2050 PRINT AT 6,0;"YOU HAVE FALL
EN OFF THE PLANK   AND THE SHARK
S HAVE EATEN YOU   THE NUMBER W
AS ";A
2060 PRINT AT 21,0;"      DO YOU
WANT ANOTHER GAME   "
2070 IF INKEY$="Y" THEN RUN 2
2080 IF INKEY$="N" THEN STOP
2090 GOTO 2070
3000 CLS
3010 PRINT AT 1,0;"WALKING THE P
LANK";AT 2,10;"BY P.BEEBE"
3020 PRINT AT 6,5;"INSTRUCTIONS"
3030 PRINT
3040 PRINT "YOU HAVE BEEN CAUGHT
 BY PIRATES.
             THEIR CAPTAIN SHOWS
A SLIGHT     TOUCH OF MERCY. IF Y
OU CAN       GUESS THE NUMBER HE
IS THINKING  OF BETWEEN 0 AND 100
 YOU ARE     SAVED.IF NOT THEN TH
E SHARKS     GET A GOOD BREAKFAST
"
3050 PRINT AT 20,0;"PRESS ANY KE
Y TO BEGIN"
3060 IF INKEY$="" THEN GOTO 3060
3065 CLS
3070 GOTO 3
4010 RUN
5000 REM BEGINING
5010 CLS
5020 PRINT AT 7,2;"
ING        WALK
5025 PRINT TAB 13;"THE"
5026 PRINT
5030 PRINT TAB 7;"
           PLANK
"
5040 PRINT AT 21,0;"       PRESS ANY
KEY TO CONTINUE     "
5050 FOR A=1 TO 60
5055 IF INKEY$<>"" THEN GOTO 2
5060 NEXT A
5070 PRINT AT 21,0;"▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒
▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒"
5080 FOR A=1 TO 60
5085 IF INKEY$<>"" THEN GOTO 2
5090 NEXT A
5095 IF INKEY$<>"" THEN GOTO 2
5100 GOTO 5040
5200 REM SAVE ROUTINE
5210 SAVE "WALKING THE PLANK"
6000 RUN
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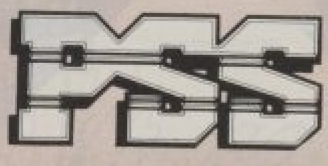


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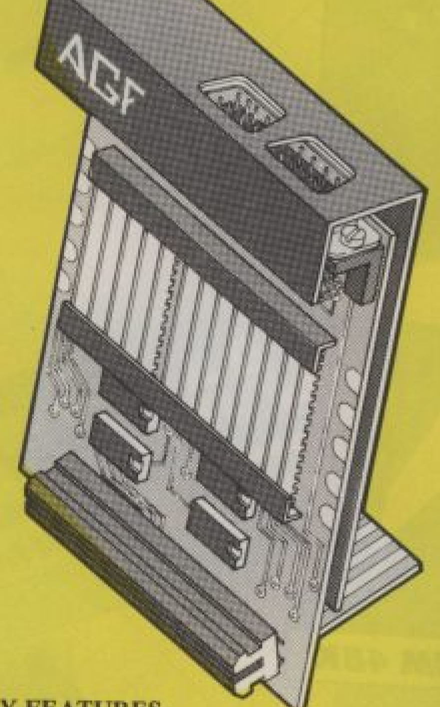
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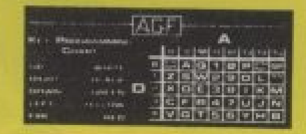


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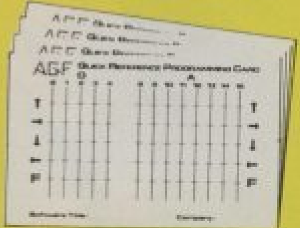
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THE OLD PROBLEM!

There are many derivatives of the original Adventure, the *Colossal Cave*, written by Crowther and Wood for a mainframe computer.

First on the scene was Radio Shack, with *Pyramid 2000*, a 16k TRS-80 version with an unlikely name, and much maligned by the critics in the USA at the time.

One particularly scathing mention was the review in *80-Microcomputing* at the time, complaining that a sceptre was used in place of what was obviously a wand in the original. "It is fairly logical to wave a wand — but who on earth would want to wave a sceptre?"

Once inside, it is down the grating so to speak — so why bother with the pyramid bit? Copyright? You could hardly fail to recognise the bird statue and the statue box! So there it was, all the trappings except the well-house and river.

Next to arrive was a ZX81 game innocuously entitled *Abersoft Adventure*, later available for the Spectrum. This one was much more easily recognised as *Colossal*, for it featured the well-house and river. The bird had to go in a wicker cage, and — no sceptre! A black rod this time!

My next foray into the cave came when I had the opportunity of logging on to Comshare. The black rod had a rusty star on the end — much more easily recognisable as a wand.

A couple of short, sharp lunch hours connected to the mainframe was all I managed, but I amazed my friends by achieving things they had been spending months trying to do! I eventually let on that I wrote the Adventure column for *C&VG*, and I had played some look-alikes! I was nearly maimed as I rushed over the crystal bridge, heading for the door!

"Oh woe is mine!" I wrote a couple of months ago, not having a copy of *Colossal Adventure* from Level 9. At the same time, I contacted them, and I am now a proud possessor of that Adventure! That doesn't mean, Dan and Andrea, that I can answer all your problems!

And what of Level 9's interpretation of *Colossal*? No need to describe the scenario — perhaps an apt description might be "You've played the rest, now try the best".

The game I played on the mainframe had a charming little sequence in which I encountered a frog, kissed it, and was devastated to find I had not created a prince or princess — merely got myself covered with warts!

The events that followed were even more hilarious — I kissed a princess and passed on the warts, and then, deciding to leap into her four-poster, was told "You can't, and in any case, she has a headache!" I eventually solved the problem, which had an unexpected twist.

Now, although the Level 9 version is the nearest to the mainframe version I played, there was not a hint of a frog to be seen. Was I playing an enhanced version of the original, or are all the micro versions abridged? How can I tell — what IS the original adventure, and how can it be recognised?

So, Dan and Andrea, play on! I hope to be able to help you soon but, on the other hand, may easily be asking you to help me! (Y2 carved upon a rock? . . .)

GOODBYE AND HELLO

My pile of letters has been growing lately, so apologies if my reply to you has been delayed or overlooked. Trouble is, my helper, young Simon Clarke, has left us to start up his own software business, leaving yours truly, truly submerged. Thanks for all your help, Simon, and the best of luck in your new venture!

On hearing of Simon's plans, I searched through my files of readers letters, and persuaded Paul Coppins, whose tips you may have read about in previous issues, to join me in answering your pleas for help. Paul is a bit of an expert on Atari adventures — my Achilles heel!

Those of you who write in with tips or questions may now expect a reply from either Paul or myself. As before, I'll be reading your letters and passing some on to Paul to answer.

WHAT'S YOURS BILL?

Make sure a bottle of gin is to hand if you sit down to play *Denis through the Drinking Glass*, for you are only allowed 10 moves without having a snifter. And to do that you must find the flask . . .!

That is the first problem. But you may not find it quickly enough, because Maggie has a habit of catching up with you first to try out one of her speeches on you. You could end up bored to death!

This game is a topical political satire, written mainly in verse, and available for the Spectrum. Just because it is fun — especially if you list to port! — don't be fooled into expecting it to be easy!

I am dying to have a go at Mary Whitehouse, give the women of Greenham Common a pat on the back, to get one up on Maggie (will I succeed without a bullet-proof vest?) and eventually reach the sanctuary of the Gravedigger's Arms to drink the cellar dry — my objective!

But at the moment I'm still cowering in the cupboard under the stairs, away from the Iron Lady's clutches, trying to discover what a purdy is. When she clears 'orf', I will steal into her boudoir and see if I can filch some of her gin. Maybe I'll find a washer for her dripping tap.

I did once try a swift exit from the front door, but became a national headline: "Denis poses for Sun readers outside No. 10" (end of game). Whoops! I had forgotten to dress!

The author claims he is unlikely to be awarded an OBE, and is anonymous. Could it be Jasper Carrott?

For those who enjoy satire and poking fun at the Establishment, here's a game that's certain to please.

Denis Through the Drinking Glass is innocuously packaged in an ordinary cassette case with a fairly uninteresting inlay. The game belies the packaging!

Although hard to solve, *Denis* is easy to play, with one of the fastest responses I've yet seen in a Spectrum Adventure. Interestingly, it is written using the Quill. Under the titles is your first object — A Plus!

Denis Through the Drinking Glass is for the 48k Spectrum, price £5.50 from Applications.

BY KEITH CAMPBELL

HELPLINE

Help for Andrew Kennedy, troubled with *Velnor's Lair* comes from Jonathan and Alex Gick. You cannot pass the waterfall, they say. Their advice is to go north from the central cavern, feed a corpse to the crocs, and use a large bath to cross the river.

Haunted House is a game I very rarely hear about, but it has one Adventurer troubled. Martin Ward of Farnborough, has braved animated armour, passed a wall of fire, and cannot deal with a mere ghost on the second floor!

It's been mopping-up time over Christmas for many Adventure players. A number of readers have written in to claim a game completed, or record beaten.

Lords of Karma has brought forth another record breaker — Graham Potts, from Cowplain, had the game for Christmas, and by the 28th December had amassed a total of 970 Karma points, beating our previous high of 957. Can anyone top that?

Another quick score was made on *Hobbit* on the '64, by novice Adventurer (it was his first), Terry Dibden of London W6. 100% was run up in little over a week after he received it as a Christmas present! At least — he THINKS it was 100% — yet another *Hobbit*-bug appeared after he scored 95%, and told him his score was <0.0%. But the cheering crowd were there as usual!

Golden Voyage is a mere puzzle compared with *Empire of the Overmind*, writes K. Stavron of Liverpool. After a six-month struggle he has completed *Overmind* — the first such claim to fame I've had.

But it is not all a success story. Matthew Howell of Wednesbury can shoot electric eels, but can't prevent a crab from devouring him. Has anyone out there solved this *Devils of the Deep* problem?

Among the other troubled pleas for help: Opening a courtyard door in *Castle Colditz*, from Paul Waterman.

Have shovel — can't dig, have boat and paddles — can't sail, in *Calixto Island*, from G. Laurie.

Can't escape from railway carriage in *Ten Little Indians*, from Chris Jones.

Blinded by flash of light in philosopher's lab, in *PQ*, from Adrian Baldwin.

Finally, another bug. Jason Warren from Jersey has found one in *Valhalla*! Surprise surprise! In the Cave at Hell, he typed JUMP, and his Spectrum said "Integer out of range". Have you tried "Sell food" yet Jason? That gives you a different error!

FISH FINGERS AND PIECES OF COD!

I'm stranded on an island about the size of a postage stamp, with the temperature plummeting upwards, and only my space ship for company.

My ship seems to have developed a dislike for me, and tells me to go away. I ask if it knows how to get out of this place. "No, but if you hum a few bars I can fake it!" comes the reply.

You've guessed it — with corny lines like that I've got to be Dan Diamond again, returned from being lost in space and up to something rather fishy.

So, like the only book I had with me said, I took the plunge, and did a bit of underwater exploration. I found a whole world down there, and even bumped into old Sparrowhawk, who gasped a dire message about a princess, and dived off into the pool in the cavern.

A lot of help he was! I tried to follow him, but he was gone. If only he had told me where, but he hadn't, and I ended up revolving eternally . . .

In fact, I kept revolving eternally. Passing down through underwater caverns, and swimming blindly in the dark — no lamp to see where I was heading — I kept hitting the same watery current.

After some hours of trying different sequences of directions, I suspended operations, strongly suspecting that there was another exit down there and I couldn't find it.

The only way out, I decided, was to GO SOUTH and visit Salamander Software, the publishers of *Fishy Business*, the third in the Dan Diamond Trilogy.

By the time I arrived to speak to Pete Neal, I really did feel like Dan Diamond, for it was lashing down with rain, liberally mixed with sea-spray blowing up from the sea front.

Pete took pity on me, and confided that the dark underwater was configured to confuse. "Yes, there is more than one exit" he confirmed, and grasping a pen in his tentacles, wrote a ROE of letters on a sheet of damp paper.

Thus I was able to explore underwater tunnels leading to a sea-horse stable, a kitchen specialising in fishballs and cod pieces, and more corn!

So have fun with Faint-hearted Franklin once more, and see if you can achieve the objective set by Sparrowhawk. If you do — you'll be well rewarded with a final laugh! I know — I have been PEEKing RAM again!

I liked this one better than *Lost in Space*. The game has such promise that I want now to visit the giggle of mermaids, the Seagas Room (me, I'm all electric!), and to find out about Ostea Edulis, all pictured in the nicely illustrated booklet that comes with the game!

I played the Dragon version, which, as expected was irritatingly sluggish at times. Beeb owners can expect a much snappier response.

And some final advice for those of you who buy this game — keep trying underwater if you can't avoid the whirlpool! I would put money on that being the only way out for many, until you hit upon the right sequence!

Fishy Business is from Salamander Software, for Dragon 32, BBC B, and Oric, price £9.95.

IT CAN'T BE DONE!

A few months ago I suggested that a reader who had completed an Adventure game might care to swap it with another, through these pages.

It all sounded fine, but when it came to the point, I found there were unforeseen problems.

Should we print a list of swap-shop offers? We concluded that if we were to print a list of offers and leave readers to contact each other, the Adventure page would read like a list of classified ads!

And if a swapper offered a popular game — how would he deal with the situation if he received dozens of letters?

Alternatively, if we arranged the swaps at this end, then the Helpline would be at risk, since the task of arranging swaps would be tremendous.

All in all, we decided the idea was not one of our more practical suggestions. So to all those of you who have written in hoping to arrange a swap — sorry! Swap shop is no more!

HELPFUL HINTS

Help comes to R. T. Britwell struggling with *Shamus Case II*, from D. E. Parry of Leeds.

The treasure chests may contain a bonus of two extra lives, nothing of value, or a key. Four keys are required to get through the doors, and they must be entered in the correct order. I'll summarise Mr Parry's useful tips in a cryptic way:

K1-R19, D1-R13:K2-R9,D2-R21:K3-R34, D3-R27:K4-R22,D4-??

At this point Mr Parry had a sudden attack of amnesia!

Rikki Alton of Nuneaton has a tip for Edward McArdle on *Escape from Traam*. Re the black man in the slave's uniform — type TALK KASTAMAN. "Obvious, isn't it?" asks Rikki. He has a tip for other readers who have not so far bought a copy of *Traam*. DON'T BOTHER!!

John Yeates, our self confessed nut, is one of those tipsters whose advice you take at your own risk. He has been attacking *Castle of Riddles* in his own inimitable way, and comes up with the following advice. In the guard room type OFF, and the next direction will be revealed. Be sure to type ON before moving, he adds, or SPLATTO! The rich man/poor man/fat man riddle is POUNDS, and the "what does everyone else overlook" one is ICICLE.



MUSIC TO FREEZE BY!

I never thought it possible that I would actually start writing about a game whilst it was still loading! But I have been won over before the tape is half-way through!

The gentle tones of an organ are playing a captivating melody in two voices through the speaker of my BBC micro, as *Snowball* from Level 9 loads. Here, then, is the first game I have ever wanted to carry on loading. A "cover picture" I am used to, but a full-length classic rendering? Incredible!

I contacted Level 9, to discover the name of the piece. It is *Winter* from the *Four Seasons* by Vivaldi. A very appropriate title to accompany this adventure! But will the game be as enjoyable as its theme tune?

Snowball seems an unlikely name for a science fiction adventure. The booklet supplied with the game gives a fully documented background, and the personal history of Kim Kimberley, the part you are about to play,

Snowball 9 is a vessel assembled in space, and fuelled by frozen ammonia in which it is encapsulated, to take its cargo of colonists from Ceres base.

Kim was specially trained as a secret agent, to be awoken from her freezer-coffin only if something went wrong aboard Snowball on its journey to Eirdani A. And something just has. . . .

The game, when eventually loaded, runs in black and white text, (not surprising, as it is claimed to have 7,000 locations) and has a good response speed. The text is wordy enough to be interesting, and perhaps mysterious rather than cryptic.

After my first few moves, having just read the booklet, I began to feel I was taking part in a film rather like a cross between 2001 and Alien. Cold shivers were the order of the day, for the second time around. I knew that the clanking mechanical noises getting nearer and nearer, sometimes fading, sometimes not, were coming from a Nightingale.

Nightingales are great big ugly black things with hypos and syringes inside. Not at all what I expected from a creature from Berkeley Square. Strange!

Oh! Yeah! I just got it! But where was the lamp for the Adventurer?

So — how do I escape? "Up" says the book — trouble is I am disoriented and keep running into walls. The answer must be locked in the control panel. Now this has ten buttons and six indicator lights — quite a number of combinations, or is there a code staring me in the face?

Whatever the answer — I must hurry! I hear faint mechanical noises coming from outside . . .!

It's all in the buttons and light, I have now decided. And I'm getting the hang of them — I think! Where did I read that this game should take a few weeks on average?

A chiller in more ways than one! The scene is set with such realism I can imagine a future advertisement: "You've played the game — now see the film!" And when that happens, Adventure games will have really arrived!

Snowball is from Level 9 Computing, price £9.90, and available for BBC (B), Commodore 64, Spectrum 48k, Lynx 48k, Nascom 32k, Oric 48k, and Atari 32k. If you have one of these micros and like a difficult adventure — buy it! Note that only the BBC version comes with the title music.

MORE TIPS FROM THE CHANNEL ISLANDS!

Our nutter from the channel islands has been fiddling with his BEEB again:

Dear Data-Twiddler,

I'm back again, and I've got lots of tips for all you lot out there in Computerland! Firstly, how about Hobbitbug number 475? By simply typing EN DO, the sword breaks, Gollum dies and the black river evaporates!

Secondly, Artic's Adventure A. Last time I wrote I told you how to find the coin. Now I'll tell you how to use it. Bribe the guard, I think he MIGHT just do something useful.

Signed J. Yeates (a total loony)

P.S. The password is "Joshua" or "Hovver Bovver", guys, and I'm not telling you which!

Keith: Wow! Now all we need is the game to go with the password we don't know!

A correspondent whose letters I always look forward to is Simon Marsh, from New Malden in Surrey:

Dear Keith,

After I read your article in October's edition, I came to the conclusion that adventure players are the best computer users — kind, friendly, and always helpful.

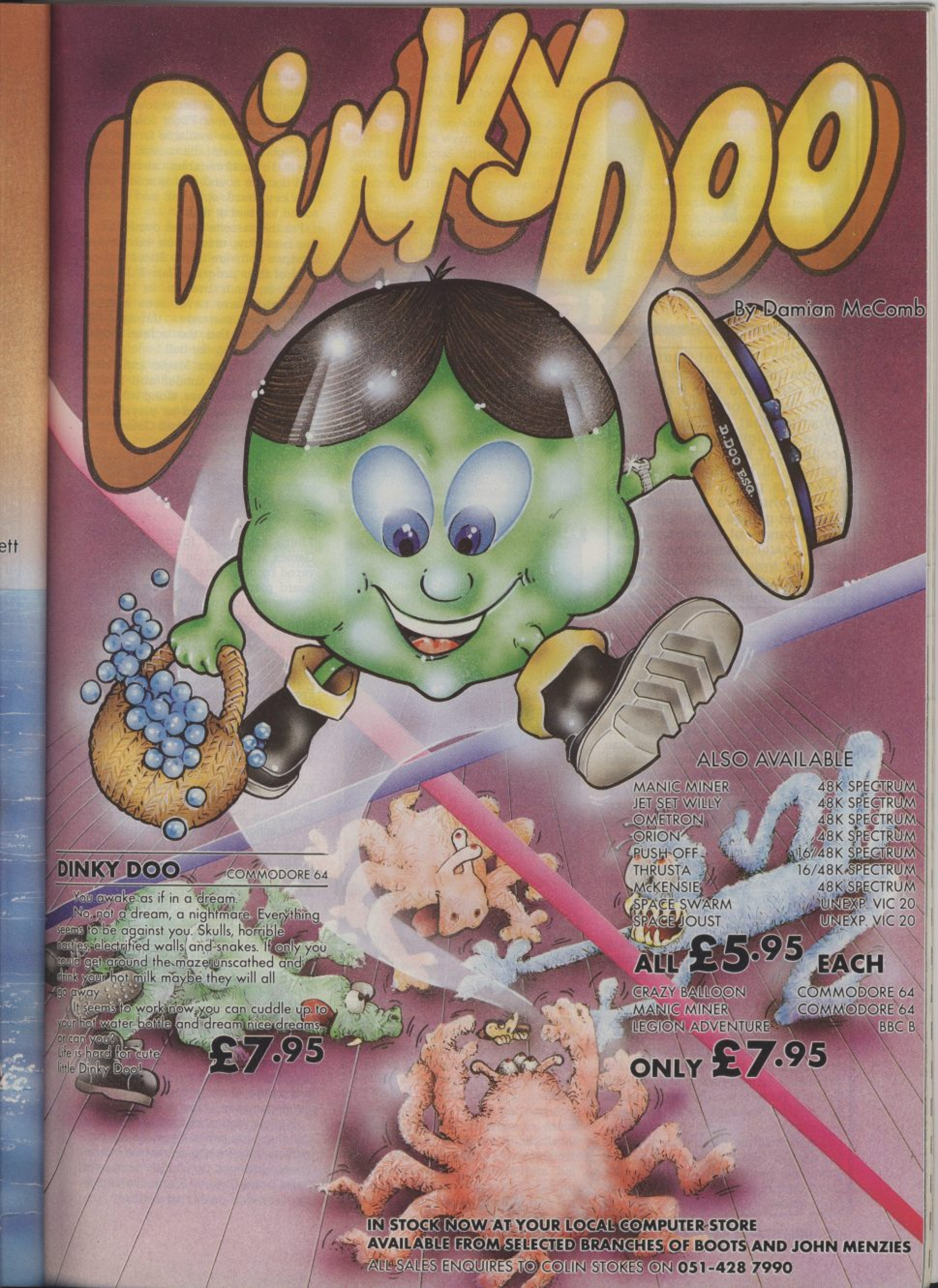
If the above is true, why are the software houses still releasing 'unfriendly' games, e.g. Mad Martha? The most frustrating thing I have found about some adventures is the lack of save-game facility. This really does make me mad. The writers should endeavour not to let this fundamental operation be missing in any form of adventure.

I was upset not to see an Adventure page in the Year Book, though your Vespozian Affair was a consolation. I've not had time to key it in yet, but I'm sure it is a great game.

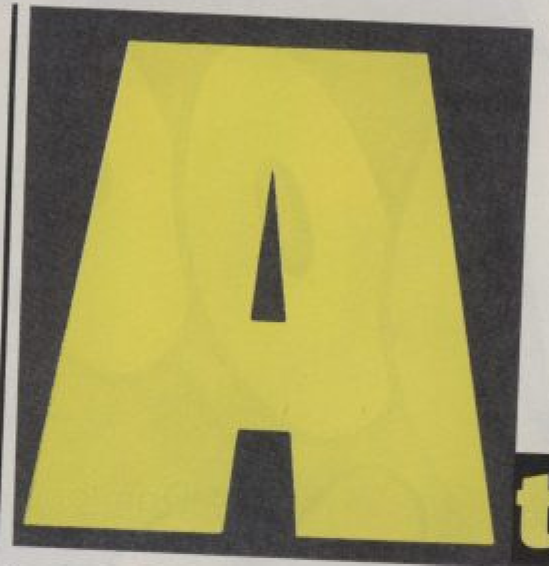
I must go now, the Dragon's getting hungry and wants something soft to eat!

Keith: Ooops! Vespozian hasn't a save-game feature! And has been described by my nearest and dearest as the worst Adventure ever written! (They find it too difficult!)


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Terrified by that mass of games software that confronts you each time you walk into your local computer store? Worried that you might not have the right games in your collection? Well, you can stop getting all hot and bothered! *C&VG* is proud to present a comprehensive rundown of the best games around for the Atari range of home computers. CRAIG THACKRAY has been delving into the mass of software around and has come up with a few winners.

INVADERS

AE by Broderbund is a 3D game which loads each detailed scene from disc after playing a selection of wonderful little ditties. A band of six alien invaders then dart in front and behind objects on the screen in a very acceptable manner. To continue through the game, you must kill three complete sets of aliens.

Bandits follows a much more standard screen format. The game itself is not totally enthralling, but it is an excellent game in terms of graphical presentation and the final touches incorporated are magnificent.

When the game begins there is a small spaceship on a lunar surface ready to fly off from a launch pad into infinity. A small astronaut transport vehicle bounces its way off the screen and the spaceship launches, reeling the title page onto the screen.

However something is wrong! There is an apple sign by the word Bandits. But fear not! A termite runs onto the screen and in a flurry of activity eats the apple to the core, leaving only an Atari sign behind.

Throughout the game there are nice details like this — putting this game a cut above the rest. Bandits is a must for Atari owners with a liking for Galaxian style games.

FLIP AND FLOP

POLE POSITION

BLUE MAX

PINBALL

One of the most realistic simulations that computers can create is Pinball. Several great software authors have risen from pinball simulations, Bill Budge being the best known. Bill's Raster Blaster pinball simulation is now regarded as one of the landmarks in software. True to the tradition of Raster Blaster, Pinball Construction Set is the most sophisticated piece of software available. Based on Smalltalk, a variation of a mainframe language, it is entirely graphics controlled and enables construction of any pinball table conceivable. It is an essential part of the Atari software collectors kit, and at £30 it has to be about the best value program available.

Night Mission is Sublogic's offering, from the author of Flight Simulator on the IBM PC now available for the Atari as Flight Simulator. Its unusual qualities are that over 40 variables can be altered and that the sound comes solely out of the keyboard speaker and doesn't sound too bad at that.

For the cassette player owner, this is the best buy, unless you can contact Synapse Software in the States and get hold of their program Slam Ball, which again is innovative in its concept. Although I have never seen it in the flesh, the message through the grapevine is that the screen scrolls around following the ball.

David's Midnight Magic and Raster Blaster are very similar and both of these excellent games, along with Night Mission, are included as playable demonstrations in the Pinball Construction set.

WAR GAMES

There are many followers of War Games who play on paper maps covered by hexagonal patterns with cardboard pieces. These games are easily converted to computers. As a result there are many War Games available, but they are more prolific on the Atari than any other machine.

The three War Games I would recommend are Operation Whirlwind, Eastern Front and Legionnaire. The latter two are by Chris Crawford, a master of scrolling games and co-author of *De Re Atari*. All of these games scroll and have highly detailed maps.

For disc owners, Operation Whirlwind is by far the most sophisticated and has the most elaborate title page I have seen. For those who prefer a little faster action, I suggest Legionnaire, supplied on cassette in 16k by Avalon Hill.

The last on my short list is Eastern Front, originally sold on cassette by Atari Program Exchange and then bought by Atari on cartridge in a very professional package with instructions in the form of a war diary.

ADVENTURES

Adventuring is an area of games playing taken to religious lengths by some and covers the largest range of titles available for the Atari. Due to the original nature of many games, several unlikely games will crop up in this section.

Pure adventure enthusiasts will know that there are two main adventure companies, Infocom and Adventure International. However, two British companies, Level 9 and Channel 8, are now producing very high quality adventures.

The best value text adventure available is Snowball by Level 9 at £9.90 which has over 7,000 locations.

For those who enjoy defeat, a strong favourite is Empire of the Overmind by Avalon Hill, still a favourite amongst masochists and members of Mensa alike. If you believe in doing three impossible things before breakfast, then pop out and get one today.

The best Adventures available are those in the Infocom range. They supply the most intricate Adventures available. Each of their latest releases covers two sides of a disc and is supplied with large amounts of extra documentation such as ID cards, postcards, games boards and numerous testimonials. All are supplied in intricate packaging and have the professional air of a best selling record album.

Interaction is in a dialect as close to English as you are likely to see for some years. Full conversations with characters is encouraged and the world in which you play seems boundless.

It is now possible to buy blueprints of buildings, maps of the underworld, t-shirts, brass lanterns, clues in invisible ink, posters, almost everything an Adventurer could need.

The games they have released are the Zork trio, Deadline, Starcross, Witness, Suspended, Planetfall and Enchanter.

If you own a disc drive, then buy the latest Infocom game whatever it might be. I guarantee you won't be seen again for months.

Beginners or those with limited memory (all you 16k 400 owners) will find more joy with Channel 8. These are relatively easy — by Infocom standards — but very enjoyable and reasonably cheap.

For the Adventurer who wants to play classics, the Adventurer's guru Scott Adams, offers very humorous adventures through Adventure International. Two modern classics released by Adventure International are based on Frogger and Pacman. Preppie I and Preppie II written by Russ Wetmore, also set new standards in software quality and will be mentioned later.

For those who prefer graphics in their life they can turn to the offerings of several companies. Technically, Sounds of Egypt is by far the best graphic adventure available — the pictures are highly detailed and animated with scrolling clouds and bouncing camels. However, it is so incredibly difficult to converse with and impossible to complete that it is barely worth playing let alone buying.

The Scott Adams series is now available in graphic format, called SAGA's. I'm sure they will soon become famous for their incredible flickering graphics. In order to achieve multitudinous colours, the programmer has timed the colours to flick every 60th of a second for the television system used in America. The desired effect however fails horribly on the British system. If you are not friends with your local optician then don't even consider it!

The most enjoyable graphic Adventures I played were the On-Line Sierra series. Special interest should be directed to the Dark Crystal, my suggestion for the best graphical adventure.

Synapse Software are to arcade Adventures what Heineken is to lager. Shamus II, Pharaohs Curse and Necromancer are their best releases in this line. I recommend all of these, my own soft spot being towards Necromancer. The animation on all of them is superb, the control over each is very well thought out and the graphics are beyond compare.

For those who prefer to spend a more reasonable amount on a game, then Lone Raider, the latest release by Atari costing £15.00, is perfect.

It is one of the few programs available that plays music while loading and is a very professional three part action adventure, written by an English programmer, Justin Whitaker.

ARCADE

The official Frogger, by Sega, always looks good. However, there are now two official Froggers for the Atari, one from America and the other by our very own Parker Brothers.



NIGHT MISSION

I can see no difference between the Online Sierra disc version and that from Parker Brothers. Both are perfect copies of the arcade game and are immense fun.

One other striking example is Preppie! by Adventure International. Although innovative at the time, it is now rather average and I find the movement sluggish. I confess to enjoying the tunes it plays as you are run over.

Dig Dug is, in comparison, a new release in the arcades. To date I have found four versions of the game: O'Reily's Mine by Datasoft, Diamonds by English Software, Anteater and Dig Dug by Atari.

Dig Dug from Atari, is my personal favourite, mainly because I find it relaxing. The documentation explains every aspect of the game to the full. O'Reily's Mine . . . well, what can you say about it, nice title page, shame about the game. Diamonds by English Software digresses too much from the original for me and I find the graphics tacky and the game laborious. However for £10 it is reasonable. I'm afraid I just don't like Anteater.

A game I did enjoy in the arcades was Q*Bert. There are now many versions of the game available and of these I have collected the best three.

The most accurate version presently available is Pharaohs Pyramid. It is also part adventure and I found it a very satisfying game to play.

Flip and Flop is brought to you by the people who brought you Astro-Chase. It is a wonderful piece of animated graphics, played on a scrolling 3D chess board on several levels.

Juice is by the author of Kid Grid. It is very slick, but I found the playfield tediously small and the goals to be

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LOWDOWN ON THE SOFTWARE

PROGRAM NAME	MANUFACTURED BY	RAM K	FORMAT	XL COMPATIBLE	PRICE £
Bandits	Sirius	48	D	N	23.95
AE	Bröderbund	48	D		24.95
Raster Blaster	Budae Co.	32	D		21.95
Pinball Construction set	Electronic Arts	48	D	N	29.95
Night Mission	Sublogic	32	CD		21.75
Davids Midnight Magic	Bröderbund	48	D		21.75
Operation Whirlwind	Bröderbund	48	CD		24.95
Eastern Front	Atari	16	R		28.95
Legionnaire	Avalon Hill	16/24	CD		19.25/28.75
Infocom	Infocom	32	D		25.75/35.95
Scott Adams Adventures	Adventure Int.	24	C		14.95
S.A.G.A.'s 1 to 6	Adventure Int.	48	D		27.50
Snowball	Level 9	32	C		9.90
Empire of the Overminds	Avalon Hill	40	CD		17.75/23.95
Sands of Egypt	Datasoft	16	D	N	28.95
Dark Crystal	Sierra Online	40	D		27.95
Shamus Case II	Synapse Software	32	CD		24.95
Pharoahs Curse	Synapse Software	16/32	R/CD		29.95/24.95
Necromancer	Synapse Software	16/32	R/CD	R	29.95/24.95
Lone Raider	Atari	16	C		14.95
Frogger	Sierra Online	16/32	CD		22.75
Preppie!	Adventure Int.	16/24	CD		19.75
Dig Dug	Atari	16	R		28.95



continued from page 121

achieved too high.

Parker Brothers have bought the rights to Q*Bert and if they follow in their present tradition they will release a perfect arcade copy.

Pacman is a huge area now. However, out of the silicon maze two playable versions stand out. For traditionalists, Jawbreaker is fast and the ghosts are very well created. However Preppie! II by Adventure International, from level four onwards, is a much more enthralling prospect with all the usual professional grace of a Russ Wetmore game.

Other notables include Ghost Hunter, Pacman, Ms.Pacman, Tumble Bugs, Mouskattack and K-Razy Antiks — a novel digression.

Scramble and Defender games have been popular since their conception in '81. Usually any game with a flying battle wagon on a scrolling landscape is thought of as one of the two — that's how I think of them anyway.

This is another area in which Synapse Software rules. Mike Potter is their leading programmer in this field and his mastery of horizontal and vertical scrolling is stunning. Titles to his credit are Protector (versions I and II), Shadow World and Nautilus.

By far my favourite by Mike Potter is Nautilus, because of the excellent selection of colours, the slick scrolling and the deep bassy tune it plays on the title page. For this novel game to be really enjoyable, two players are needed. The computer is well above human skills and gets very depressing very quickly.

Both Nautilus and Shadow World scroll different sections of the screen in different directions and each player can appear at two places on the screen.

Shadow World is very close to Defender, the major difference being that the invading aliens descend in Battlestars and then pour out.

The objective is to destroy the bases when their defences are down and before they land. This is an excellent one or two player game, although it takes some time to relate the rules to the game. It's one of these games which grow on you, but I can envisage it getting dull after a while.

Protector II places you at the controls of a Needle Fighter as the heroic saviour of your home planet. It is a rather boring theme for a rather boring game — not as enjoyable as Protector I.

SARGON II

PREPPIE! II

CAPTURE THE FLAG

Perhaps the best scramble type game available is Fort Apocalypse. It is 32k, but it utilises fine scrolling and very large sprites.

The hardest Scramble game I have found is Sea Dragon by Adventure International. It is ridiculously difficult, but it is possible to skip levels by inserting a joystick into port 4 and pressing your fire button.

Adventure International are reported as saying that it is made that difficult to give long lasting value for money and challenge. My personal belief is that Russ Wetmore is a sadistic and cruel programmer! Those who liked Preppie! and Preppie! II and want a Scramble game, then Sea Dragon will be for them.

Purists will find Airstrike and Airstrike II very enjoyable. For me they just hit the spot. Both are by English Software for £14.95 — a meagre price for such excellent games.

Atari also have a version of Scramble, which is now well known. Caverns of Mars is a poorly made, roughly finished, overpriced game with little resemblance to the original, a difference which works negatively!

I place a warning here. Caverns of Mars III has been released, called Phobos. It is a truly horrendous game — avoid it like the plague.

There are four particularly striking variations of Defender. Defender by Atari is the best copy of the arcade game, and I personally prefer it to another strong contender Repton. However, many of these who helped me to compile this article preferred Repton. The final decision is based on personal opinion and whether or not you have a disc drive.

Sky Blazer is rather loosely based on both Defender and Scramble. It involves undertaking several totally impossible missions. The graphics are boring and the scrolling is very jerky using none of the built-in scrolling facilities — I loathe this game.

Choplifter also uses software scrolling, however it is very smooth and there are many reviews around. It is overall a very well produced game, available on both disc and cartridge.

OTHER BITS!

The remainder of this section covers various miscellaneous themes. Pogoman by Computer Magic is a smashing little program. You play the part of a public service employee who turns out the street lights during a black out from a pogostick. It does, however, boil down to bouncing over the various objects which scroll towards you.

On later sheets you must jump over cats, ducks and a unicyclist whilst avoiding the killer parrot. Throughout the game a very relaxing tune plays continually preventing you becoming frustrated — rather like a sedative.

A novel approach to scramble was adopted by Zaxxon and the Synapse spin-off Blue Max. Zaxxon, like many of the arcade copies on disc and cassette, is licensed to Datasoft. It is a very close copy, especially the disc version, and although pretty, neither the disc or cassette versions feels like the arcade game. It was also evident that the program was not fully debugged, with what can only be described as glitches at the top and bottom of the screen.

Blue Max turns you into a British Fighter Pilot flying over the front line to destroy three prime targets in a German city.

The first few hits on your plane from ack-ack or enemy bi-planes knock out your manoeuvrability, machine guns, bombs or fuel tanks and finally you dive

out of the sky, crashing into the ground.

Every few miles you must land on an airstrip then take off. To progress through the game you must bomb primary targets marked by the computer.

The game can continue for up to an hour, although you only have one life with such ratings as Kamikaze Trainee. From its stunning title music to its final, definite crash, this is a marvellous program which must go down on my shortlist very near the top.

It is pointless to point out that the best copy of Donkey Kong for the Atari and probably any computer is the cartridge version of Donkey Kong by Atari. It is modelled on the American version of Donkey Kong and so may seem slightly different in its screen layout and the order in which screens appear.

All this follows on the recent tradition by Atari for a move towards as close a copy of the arcade original as the computer's hardware will allow.

A game soon to be released by Atari is Jungle Hunt — already available for the VCS. This multi-stage game follows the exploits of an explorer attempting to find Jane and release her from the cannibals. The graphics routines are very complex, especially the co-ordination of player missiles with the screen memory. A review of this game will appear in this magazine at a later date. Donkey Kong Junior is also planned for release soon and, although I have not seen it yet, but it should be good. For those who already have Donkey Kong, this is the perfect sequel. However, I find the arcade version impossible.

Rather like Michael Jackson's album Thriller, Miner 2049'er has been in the top ten sales for the Atari for months. This was a first attempt at a game for the Atari by Big Five, a leading software house for the TRS-80. This game has been reviewed by almost every magazine available, and highly acclaimed by all.

Its huge sales have led to many spin-offs for other machines and Bounty Bob now returns in Miner II, called Scraper Caper. It should soon arrive in this country. If you don't already have the game, then buy it.

For those who cannot afford such expense, then Leggit is an excellent game at only £5.50. It includes an animated title page multi-channel music and all the other features you would expect for an Atari game. The game rates as the best value game for the Atari. I hope that Ultimate Play the Game will follow Imagine's lead and release some of their excellent Spectrum games for the Atari at £5.50.

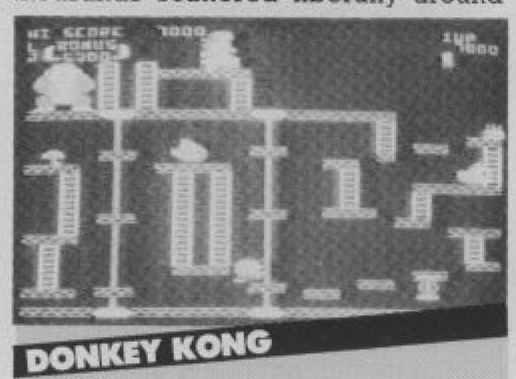
Leggit is almost as demanding as Spies Demise (now available for the BBC as Corporate Climber through Dynabyte). This game is very simple. You must run your spy between ascending and descending lift-like objects, finding clues and, as each end of the screen is reached, you rise a level to the next ramp. The game is very demanding and I find a Kempston Competition Pro-Joystick perfect. At the top of each screen you are given a piece of code and eventually, after completing eight screens, you decode the message and send it off to Penguin Software.

The program plays tunes continually and has options for keyboard, joystick and paddle play. I have played this game almost continually for a month and enjoy it immensely.

Recently released was The Spy Strikes Back which is a graphical adventure as opposed to a version of Donkey Kong. Again it is an excellent game.

Perhaps the most appreciated game in my collection by all my playtesters was Mountain King by CBS (previously K-Byte).

After pressing start, the adventurous player dances to Grieg's In the Hall of the Mountain King from the Pier Gynt Suite, until start is pressed again. To continue the game, the player must collect 100 diamonds from a choice of thousands scattered liberally around


DONKEY KONG

the screen before moving on to the next stage.

When all these have been collected, the player must search for the magic flame. As you approach the flame, a background tune increases in volume. The flame flickers, occasionally, but it is not visible and you must use your torch to find it.

The final task is to leave the mountain avoiding the kings minions while more bars of Pier Gynt are played, increasing in speed all the time. The game involves a great deal of scrolling and has splendid animation of all characters, especially the Arachnid who patrols the floor of the subterrainean kingdom. The tunes are complete utilising many of the octaves available on the Atari. This is another of those *'must-buy'* games.

Electronic Arts entrant is Hard Hat Mack. This game utilises the entire 48k available for the Atari, and is only three screens. It uses mode eight graphics, hoping to use artifacting. Unfortunately, in the UK it is black and white. If it were not for this problem, the graphics would be very detailed. It is packaged in a very well produced folder including interviews with the programmers.

Last year, the Computer Game of the Year award didn't go to any of those arcade hits like Pacman or Defender as it had in previous years, but instead it went to Wayout, an incredible 3D maze game.

Wayout's graphics are terrifyingly fast and smooth, with a choice of 26 unique and claustrophobic mazes, ranging from open, spacious mazes to tight and narrow intricate ones. There are gales blowing through many, which send you off course and eventually result in your failure.

To hinder you further, the Pentangle appears (a vertically rotating rectangle) whose playful antics centre around annoying you by stealing your compass and map marking equipment. This equipment is used for displaying a top view of the expanding maze as you explore it.

Wayout, not surprisingly, is a 48k disc based game, but for those of you with unexpanded machines, be frustrated no

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LOWDOWN ON THE SOFTWARE

PROGRAM NAME	MANUFACTURED BY	RAM K	FORMAT	XL COMPATIBLE	PRICE £
O'Reiley's Mine	Datasoft	16/32	CD		21.45
Diamonds	English Software	16	CD		9.75
Flip and Flop	First Star Software	32	CD		24.95
Juice	TG Software	32	CD	N	19.95
Pharoahs Pyramid	Master Control S'ware	16/48	CD		24.95
Preppie! II	Adventure Int.	16/24	CD		24.95
Jawbreaker	Sierra Online	8/16/32	R/CD		22.95/19.95
Pacman	Atari	16	R		28.95
Ms. Pacman	Atari	16	R		28.95
Tumble Bugs	Datasoft	32	D		19.95
Mousk Attack	Sierra Online	32	D		21.95
K-Razy Antiks	CBS	16	R		25.95
Protector II	Synapse Software	16	R	R	29.75
Shadow World	Synapse Software	32	CD	N	23.95
Nautilus	Synapse Software	32	CD	N	19.95
Fort Apocalypse	Synapse Software	16/32	R/CD		29.95/25.50
Sea Dragon	Adventure Int.	16/32	CD		19.95
Airstrike	English Software	16	CD		6.75
Airstrike II	English Software	16	CD		9.95
Caverns of Mars	Atari	16	RD		28.95/25.95
Defender	Atari	16	R		28.95
Repton	Sirius	48	D		28.95



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longer. From the makers of Wayout comes an equally incredible game called Capture the Flag on an 8k cartridge. It is effectively an action version of Wayout with music, enabling up to two people to play.

The purpose of the invader is to get to the exit, avoiding a fatal encounter with the defender. The defender must destroy the invader by slamming into him. The graphics are as stunning as Wayout's, if a little slower.

ORIGINAL GAMES

The remainder of the article is devoted to original games which do not come under any of my artistically oppressive classifications.

Other than action adventure games, Synapse are well known for releasing totally original game concepts. Of the games they have released, the two most easily available are Picnic Paranoia and Claim Jumper.

Picnic Paranoia is the most novel of the two and plays a very good rendition of *'Flight of the Bumble Bee'* from the Carnival of the Animals. Soon you'll be able to spot a computer user by whether or not he whistles Beethoven when he's happy.

The title page introduces each character by name as they walk, fly, crawl or slide onto the screen, whilst George uses code to spell the name of the game, fly swatter in hand. In the game, you protect your food from the ants who crawl on to steal your booty. You have to protect the food on the tables with the aid of a fly swatter and occasionally a can of insect killer which acts rather like a bomb.

To aid the ants, however, is their secret weapon, the deadly wasp which, I might add, splats with wonderful finality. Overall the game is rather lengthy and not fast enough.

Claim Jumper only works as a two player game and only then if both players are evenly matched and violent. Basically it is a variation on Boot Hill, varying only in that it involves collecting gold, converting it into cash and then storing it in the bank. The game became boring very quickly and now I only play it to listen to the music.

About the latest release from Synapse is Drelbs, a very silly game. The first phase of this two phase game is based on a board of rotating fences which must be moved to form squares.

Preventing you is The Face, a stripped maggot and an evil monster which has the dastardly task of destroying your squares. The maggot moves around the edges of the screen, shooting into the central play area and unleashing bullets which rebound around the maze area of fences.

Occasionally a girl's face will appear in one of the previously built squares. This is your cue to dash to your heartthrob to receive a slobbery kiss! Eventually when you have completed as many boxes as is possible, large numbers of Drelbs will appear in the boxes. You must then run into these squares to continue to phase two.

Here all you need to do is to avoid The Face while collecting Drelbs and transporting them to safety — in other words run over the creatures which look like you in a frantic dash. Overall this is a great game to play although progressing through the levels is slow.

To date, Atari's most astonishing game is Pole Position, the well known 3D car racing game taken from the arcades.

On the first track, you have to set a fast time to get a good position on the grid for the main race.

The secret to the game is the fast realistic action, the thrill of screaming around corners at 160mph while avoiding the other cars on the track. If you are only going to buy one game, then this is the one you should get. I may be repeating myself here, but I promise this is the last time I will say it (he said nose growing with every utterance).

Also from Atari is Tennis, very similar to the Activision version on the Atari VCS. I personally loathe the game, particularly as I am continually thwarted by the vindictive attitude of the computer opposition. I have won three points out of four full games.

For those of you who like chess, Sargon II answers all your needs. As well as being able to play a good game of chess, you can also start the game from any position. This is useful for solving newspaper chess problems. There is a choice of levels from novice (which beats me every time) to expert.

**All the prices quoted are those charged by Silica Shop from whom all the games included in this article are available.*

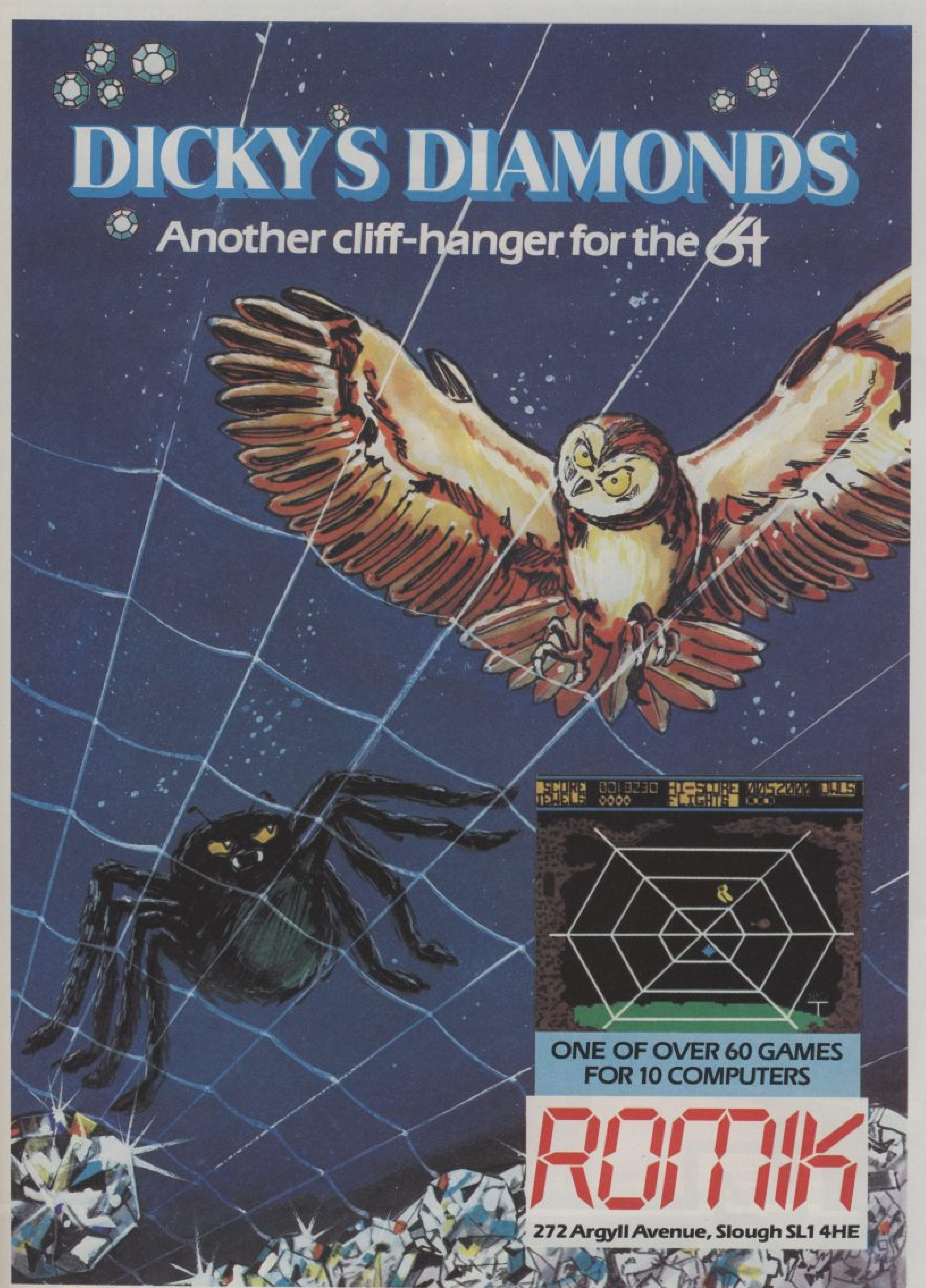
LOWDOWN ON THE SOFTWARE

PROGRAMME	MANUFACTURED BY	RAM K	FORMATS		PRICE
Sky Blazer	Bröderbund	48	D		22.95
Choplifter	Bröderbund	16/48	RD		27.95/23.75
Pogoman	Computer Magic Ltd.	32	CD		28.95
Zaxxon	Datasoft	16/48	CD		29.75
Blue Max	Synapse Software	32	CD		22.95
Donkey Kong	Atari	16	R		28.95
Miner 2049er	Big Five Software	16	R		29.75
Scraper Caper	Big Five Software	16	R		29.95
Leggit	Imagine	16	C		5.45
Spies Demise	Penguin Software	32	D		14.95
The Spy Strikes Back	Penguin Software	32	D		14.95
Mountain King	CBS	16	R		28.45
Hard Hat Mack	Electronic Arts	48	D		29.95
Wayout	Sirius	32	D		25.95
Capture the Flag	Sirius	16	R		USA
Claim Jumper	Synapse Software	16	R	R	29.75
Picnic Paranoia	Synapse Software	16	R	R	29.75
Drelbs	Synapse Software	32	CD	N	22.45
Pole Position	Atari	16	R		28.95
Tennis	Atari	16	R		28.95
Strip Poker	Artwork	40	D		USA
Sargon II	Hayden Publishing Ltd.	16	C		USA

FORMAT D = Disk Based C = Available on Cassette C = Cartridge

XL = Compatible
N = Programme will not work with new XL-range
R = Cartridge will not work with new XL-range

PRICE
Price as quoted by Silica Shop
USA = Program is only available in USA



Available from Dixons, John Menzies, W. H. Smith, Boots and all good computer stores.


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ONLY £5·95 each at W.H.Smiths, *Boots, John Menzies and other leading Computer Stores, or... Available direct from CDS Micro Systems
Send Cheque or P.O. To CDS 10, Westfield Close, Tickhill, Doncaster DN11 9LA. Tel: (0302) 744129. (Trade enquiries welcome) * Selected titles only

VEGAS INVADERS

One day I was sitting at my desk quietly dozing when I was suddenly shocked out of my daydreams. What? You want me to go to Las Vegas, USA to report on a computer fair! That's right folks — the Editor finally flipped and sent yours truly on an all expenses paid trip to the Consumer Electronics Show in America.

Well. I couldn't pass that up could I? So very shortly afterwards, my bags all packed, I set off for the U.S. of A. and the dream town that is Las Vegas. Here's what I found there . . .

The CES is the largest electronics trade fair in the world — about five PCW shows rolled into one! It's not just all computers either — the CES features everything from fridges to car stereos.

Although the CES is a good opportunity for reporters to find out what's new for the coming year, the main business is about selling. Every hotel, motel and guest house in the city is booked weeks before the show by buyers from all over the world. It is make or break week for the manufacturers — a poor performance at the CES may well mean that a new product is shelved and never find its way into the shops. But *C&VG* was there to look at new developments in the games world. So what's new for the games fan?

This CES was the turn of the American software houses to steal the show. For the last three years it has been dedicated video-game specialists like Atari, Activision, and Imagic who have stolen the limelight with their award-winning video-games and whizz-kid programmers. But no longer.

The new glamour names in American electronic games are software companies like Synapse, Broderbund, Datasoft, and Electronic Arts.

Now let's take a look at some new titles from these rising software stars.

It had to happen — JR has finally bought his way into the computer games business. The Dallas baddie will soon be topping the bill in his own computer game. If you've always thought you could outwit TV's most devious double dealer, then this is your chance to try as the action takes you inside the Southfork ranch and into the jungles of South America in pursuit of the black stuff. *Dallas Quest* will be available from Datasoft on disc and cassette for Atari computers and the Commodore 64.

Other newies in the pipeline from Datasoft include the first officially licensed Bruce Lee Kung Fu game!

O'Reilly's Mine offers variations on the theme of prospecting for precious



metals and clocking up points on your computer.

Epyx, of *Temple of Asphai* fame entered the show with a fistful of new titles. A strong sports theme was evident in titles like *Summer Games* and *The World's Greatest Baseball Game*.

Any new Epyx title is watched closely in the States especially since the chart-topping success of the company's games — *Jumpman* and *Pitstop* last year.

No software house set the pace in 1983 more than Synapse with smash hits like *Zaxxon*, *Fort Apocalypse*, and *Blue Max*.

Once the legal wrangle stopping the import of Synapse games has been resolved, lucky Atari and Commodore 64 owners can look forward to *Dimension X*, which boasts 3D-style graphics even more impressive than *Zaxxon*. Two other forthcoming goodies are a totally new personal fitness program called *Relax*, — no it has got nothing to do with the record — and what Synapse describe as "a step beyond the Adventure games of the past — to the new range of Synapse electronic novels". Can't wait!

The most interesting of the newcomers to the CES were Electronic Arts — a company with a whole lot of hype — but some good new games as well.

Pinball Construction Set — already reviewed in *C&VG*, March — enables you to design your own pin table by dragging the various play mechanisms around the screen with the joystick. *Acheron* is a strategy war game based on Chess, and *Hard Hat Mack* is an arcade-style climbing game.

Electronic Arts games are for the Atari computers and the Commodore 64, on disc only and come distinctively packaged in record-like sleeves.

Most of the software houses in the U.S. are now concentrating on the Commodore 64, Atari computers, the IBM PC, and Apple as these machines represent the largest market. The Sinclair scene is very flat in the U.S. with just one piece of British software — Melbourne House's *Penetrator* — attracting the occasional player on the Timex Sinclair stand.

Quicksilva were the only British software house to have their own stand at the CES which served as a sort of clubhouse for British journalists and buyers visiting the show.

The only really good news for Spectrum owners to emerge from the show is Sega's decision to license Thorn EMI to produce their titles under licence in the UK.

The wealth of hit arcade games in the Sega range promises a real treat for Spectrum owners with titles like *Zaxxon, Turbo, Buck Rogers, Congo Bongo* and many more.

Sega titles for the Spectrum will be matched in the summer by "name games" from Parker Brothers and Atarisoft — which all adds up to tough competition for our own home grown Spectrum software.

Another software show-stopper was Broderbund's *Lode Runner* — a game which has topped the charts in the U.S. for the last six weeks.

HesWare's stand attracted the autograph hunters as Minnesota Fats — the famous American pool player — was demonstrating his Pool Challenge game and taking on all comers.

Another personality attracting attention was Mr Adventure himself, Scott Adams — drawing the crowds to the Adventure International stand.

Dozens of Penthouse Pets also attracted a lot of attention at the show — handing out signed photographs of themselves. What's this got to do with computer games, I hear you ask? Not a lot really! But if Nadine should ever read this . . .

Something else which didn't have much to do with computers caused more than a flicker of interest — robots.

Robot is the current buzz-word in consumer electronics. Try saying robot to a computer journalist, publisher, buyer, or self-appointed 20th Century H. G. Wells and watch his eyes light up and mouth start salivating as he prepares to relate his now well rehearsed theory about how these mechanical beings will be answering the door, doing the washing up and telling jokes in every household in the country before the turn of the century.

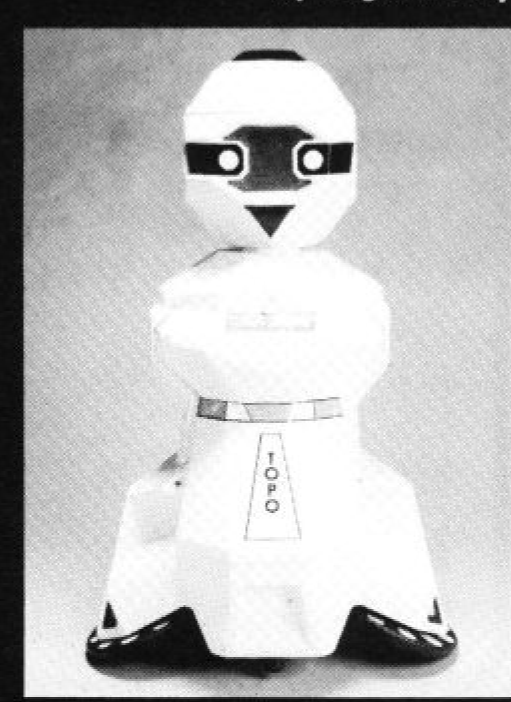
The ones which you will probably be aware of already are Topo and Fred from the American company Androbot. Both these robots recently went on sale in the UK.

Topo is the deluxe model who can walk and talk but, if you want him to do anything else, you'll have to wait for the add-ons.

Fred is a toy. Fun — but not as much fun as say — Scalextric, Action Man or a BMX bike!

I could go on to tell you about my hazardous journey back home from Vegas, getting stuck in Dallas and having to explain why I was a day late back at the office still clutching an autographed picture of Nadine the Penthouse Pet. But I'm afraid that's all we've got space for!

By Eugen Lacey



Personal robots were all the rage in Vegas. This is Topo (right) from Androbot — available now in this country! Above, left to right. Parker Brothers raid the arcades to bring you Gyruss — a version of the C&VG arcade championship game. Another version of an arcade classic — Star Wars — again from Parker Brothers. J.R. on your micro! Yes really. The world's first computer soap opera! Datasoft's adaptation of Stern's action-packed arcade game Lost Tomb shortly to be seen in this country.

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SHUTTLE-BBC

Let's start with another bug that I've just noticed crawling from deep within the pages of February's book of games.

Shuttle for the BBC, on page 45, lost a character at the end of line 540. Time, for future reference, is equal to zero. (. . . TIME=0)

ATARI 600/1200

Atari listings have been causing a few problems with the introduction of the new 600 and 1200XL models. I've been getting calls recently from readers asking whether programs written for the 400 or 800 will run on the newer models.

I've actually spoken to Atari myself and was told that there should be no problem, on condition that only normal programming practices are used.

Although a new operating system is used in the 600, all pointers remain the same. This means that POKES to the character set or to the Player Missile Graphics are the same.

However, some clever programmers use their own routines to bypass the way the Atari's operating system sets up functions. In these cases, where jumps are made straight into the Atari's ROM, there may be some problems.

Meanwhile, if you've ever wondered what Australian programmers have to put up with, type POKE 755, 204 on your Atari to find out.

PLAY IT AGAIN

Someone called R. Timothy from Rumney, Cardiff, writes in with some useful addresses for restarting some of the Acornsoft games on a BBC B after you've pressed BREAK.

If you've interrupted your game of Rocket Raid, then there's no need to re-load it — just type CALL 678, press return and then press space. The same goes for New Snapper, but change the 678 to 657. To restart Killer Gorilla, CALL 6135, press return then press escape.

QWARRK — 64

Planet Qwarrk for the Commodore 64 from February's issue suffered from some unclear printing at the end of line 440. The colon (:) before the final 'F' should, in fact, be a semi colon (;).

DIY REPLIES

Here's a way of cheating on Superior Software's Q*Bert for the BBC B. When the computer asks you for a skill level, press BREAK and ESCAPE together. Then type this line . . .

4017 VDU ?PCHAR1%:SOUND 1,1,55-(FY%-I%), 1:NEXT: IF MEN%=1000 THEN 5000 ELSE 3015. Then type RUN, and you now have over a thousand lives.

This naughtiness comes from the pen (well, typewriter ribbon actually) of Damien Rew from Balcombe, West Sussex. Damien ends his letter by asking why there isn't a top 10 score section for the BBC. Well, Damien, I think you've just answered that one yourself.

YEARBOOK REVISITED

Returning for one brief moment to the Yearbook, line 16910 of Vespozian Affair for the Atari should end in J=I.



Write to me at Bug Hunter, Computer and Video Games, Durrant House, 8 Herbal Hill, London, EC1R 5EJ. Or phone me on 01·278·3881.

SPLATTING BUGS

Here's some news of a possible bug in best-selling Splat for the Spectrum for Incentive Software. Whenever you score 50,000 or more, says Gregor Rankin from Belfast, the machine crashes just after generating the hi-code.

If you've had this problem with your copy of the game, then let me know. It may be a faulty batch of tapes, or there could actually be a bug in the program.

IMAGINARY BUGS

Ross Scott writes from Burghfield Common near Reading about Imagine's latest pride and joy, Stonkers. I have yet, he says, to complete a game owing to the program's crashing. It leaves a coloured, flashing square on the screen and further play is then impossible.

Well, Ross, I've spoken to Imagine and was told that there was a fault in one of the machines used to produce the first batches of Stonkers. They managed to track down most of the faulty copies but there could still be a few left. The game has been tested heavily, they assured me, but because it's so complex there may still be some bugs lurking deep within the code. If you find one, please let me know.

Imagine was quick to point out that all of their games carry a lifetime guarantee. Quite what that actually means I can't be sure, but if you have a problem with your copy of Stonkers and you're still alive then send it back to Imagine in Liverpool and they'll rush a fresh copy as fast as the local postman can walk.

VIC SCREENS

Roger Walkden from Park Road, Beckenham in Kent writes in with a useful Vic-20 tip.

If you POKE 36896, 1 the entire screen will move to the left. Change the 1 to an 11 to return to the centre, or change it to 22 for the right hand side. Anything larger than 22 will make the screen start to disappear off the edge . . . and by 61 it's all gone.

LUNAR JETMAN

I've also had a few letters about Lunar Jetman from Ultimate. Approaching the alien base in your buggy sometimes causes the program to crash. Ultimate says that there may be a faulty batch of tapes — if you think you have one of them, they'll replace it for you if you return it. No doubt they'll refund your postage as well.

WRITE THROUGH MICRONET

There are now three ways you can get in touch with the Bug Hunter. As well as phone (01-278 3881) and letter, we've now joined Micronet 800.

If you're a member of the Micronet database then you can write to the Bug Hunter via Prestel Mailbox. My account number is 012786556.

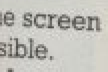
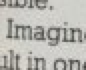
I'll try to reply to every message within a day or so, but there will probably be certain times during the month when it will take a little longer. After all, I have to write this page you know.

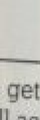
MORE VIC BITS

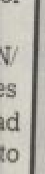
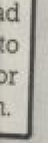
Finally for this month, here's a few SYS numbers for Vic owners, courtesy of John Jones of Eastham, Wirral.

SYS 234 is the same as pressing RUN/STOP, RESTORE. SYS 64802 simulates switching the machine off, and instead of using "PRINT" with a CTRL key to change colour, use POKE 646,0 for black, 1 for white, 2 for red and so on.

BY ROBERT SCHIFREEN







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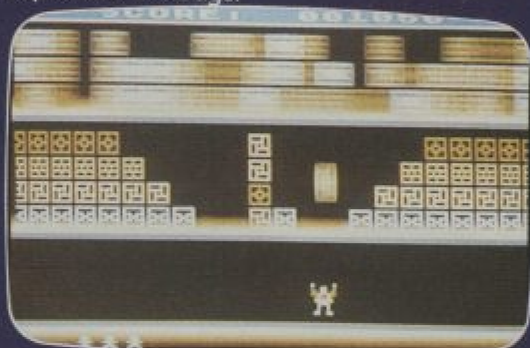
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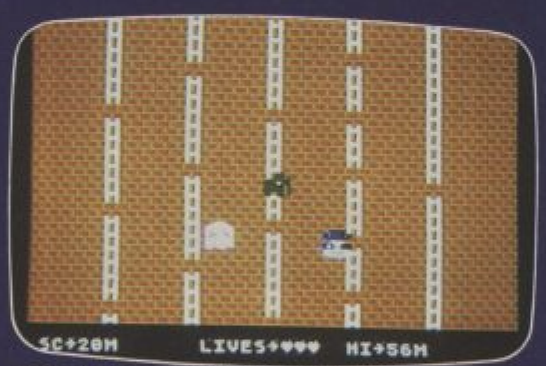
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GRAPHICS

By Garry Marshall

MAKING THE MOST OF YOUR 64 PART 2

You can produce sprite graphics on the Commodore 64, and they can be very impressive. They are large so they can be highly detailed, they can be magnified both horizontally and vertically and they can be multi-coloured.

Unfortunately, though, the Basic on the Commodore 64 provides no support at all for sprite graphics, and programs to generate sprites must consist of masses of PEEKs and POKEs to access the various registers in the Vic graphics chip that produces and controls the sprite graphics.

A sprite is 24 dots wide and 21 dots high. It is represented in the usual way by using a 1 for a dot that is "on" (foreground colour) and a 0 for a dot that is "off" (background colour).

Thus, it takes 63 bytes to store a description of a sprite, although the Commodore 64 allocates blocks of 64 bytes for them and then makes no use of the last byte. Up to eight sprites can be maintained at the same time.

The illustration shows a design for a sprite, and its description is included in the DATA statements of the accompanying program. This program maintains three sprites, all of which have the same shape, but different colours.

The first problem that we have to face is where to store the sprite descriptions. We shall put ours in the cassette buffer, which extends from location 828 to 1023. If you do the necessary arithmetic, you will see that there is only room for three sprite descriptions here, but this is not a problem since several sprites can share the same description.

However, if you want to write a program that uses more than three differently shaped sprites, you must delve further into the mysteries of the Commodore 64 to find out how to make yourself a sufficiently large amount of storage that will not be affected by anything else than the computer may do.

Now we come to the part where we have to start remembering the large numbers which are the addresses of the Vic registers that control the various properties of the sprites.

The addresses in the following table are vital, controlling the colour and position of each sprite, and showing where the description of the sprites are stored. The sprites are numbered from 0 to 7.

sprite	location pointing to description	colour	X position	Y position
0	2040	53287	53248	53249
1	2041	53288	53250	53251
2	2042	53289	53252	53253
3	2043	53290	53254	53255
4	2044	53291	53256	53257
5	2045	53292	53258	53259
6	2046	53293	53260	53261
7	2047	53294	53262	53263

To find where the description of sprite 0, for example, begins, the computer multiplies the contents of location 2040 by 64 to get the address.

So if we are to put the description of a sprite at the beginning of the cassette buffer, we must store 13 in location 2040 (with POKE 2040, 13), since 64*13 = 832 is the multiple of 64 that gives the address that is nearest to the beginning of this buffer.

The X-positions and the Y-positions that are stored in the locations given in the table give the x- and y-coordinates of the top left corners of the sprites.

In addition to these registers, location 53269 controls whether the sprites are on or off. Placing a 1 in bit 0 of this location turns sprite 0 on, while a 0 in bit 0 turns sprite 0 off. The other bits in this location control the other sprites in the same way.

When sprites meet each other, their priority, that is to say the way that it is determined which sprite remains visible, is determined by their numbers. Sprite 0 has the top priority, sprite 1 is next, and so on.

You will find a program for displaying and moving sprites below. It displays three sprites and, when a key is pressed, it sends them off for a short journey.

```
5 PRINT"J"
10 FOR K=0 TO 62
20 READ B
30 POKE 832+K,B
40 NEXT K
50 DATA0,16,0,0,56,0,0,40,0,0,56,0,0,56,0,0,124,0,0,
   84,0,0,124,0,0,254,0,1,255,0
60 DATA 3,255,128,7,255,192,15,255,224,31,255,240,
   63,255,248,127,255,252,255,255
70 DATA 254,255,255,254,248,56,62,0,56,0,0,16,0
80 POKE 2040,13:POKE 2041,13:POKE 2042,13
90 POKE 53269,7
100 POKE  53287,2:POKE 53288,3:POKE 53289,7
110 POKE 53248,52:POKE 53249,50
120 POKE 53250,100:POKE 53251,100
130 POKE 53252,150:POKE 53253,150
140 GET C$:IF C$="" THEN  140
150 FOR K=51 TO 200
160 POKE 53248,K
170 POKE 53251,K+50
180 POKE 53252,J:POKE 53253,J
185 J=K+100: IF J>255 THENJ=K
190 NEXT K
200 GOTO 140
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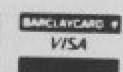
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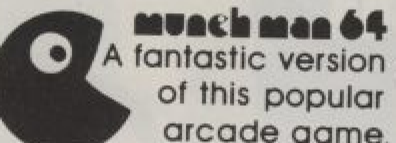
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MUSIC

A DISTINCT LACK OF HARMONY!

MUSIC

BBC owners who'd like to try their hand at a quick symphony or two can buy the Music package from BBC Soft.

The program works on either model Beeb, but is really pretty basic in its features. The introduction in the manual actually states that, because it runs on either model, the program has not taken full advantage of the commands available. The program has four different envelopes defined, and you can therefore play in four instruments. To enter a tune you place the notes on the stave on the screen. You can then play the tune or edit it. You can also record it to tape to replay, or to re-edit, at a later date.

Unfortunately, the program only uses one voice of the computer so you cannot produce harmonies. This is quite a serious omission, which should really have been included in a separate version for the model B.

When loaded, the program asks for a command which can be any of seven. These are all accessed via the red function keys. Here you can do such things as edit your tune, play it, erase the tune in memory or change tempo and/or instrument.

Notes are entered onto the stave using the top two rows of the keyboard. Sharps and flats are available across just under two full octaves. Rests are entered with the space bar — you cannot enter the tunes in real time.

To edit a tune you can move the program's cursor over the stave. As it is moved across, the notes will play in turn. You can then either alter, delete or insert notes. The erase function allows you to delete the notes on one of the three staves. You also have the option of erasing all three at once if you wish.

The Tempo command is used to set the speed at which the notes will be played. There are ten different settings which you can use. There are also four different instrument sounds to choose from. Although they're not really very realistic, it's certainly an improvement over similar programs running on a Spectrum. The four voices are organ, harpsichord, violin and piano.

The program comes with a reasonably understandable manual, and it's quite easy to use. Unfortunately, the lack of harmonies makes for pretty uninteresting music, but it's still quite fun. The graphics for the notes aren't too good either.

If you'd like to form your own opinions, then the tape will set you back £10. Well it is from the BBC.

MUSIC (BBC SOFT)	
Performance	♪♪♪
User friendliness	♪♪♪
Presentation	♪♪♪
Complexity	♪♪♪

NOW GET IN THE RIGHT MUSIC MODE

MUSICMASTER

Budding Mike Oldfields who'd rather stick with official Sinclair software can now try Musicmaster. Written by a company called Incognito software, it allows you to play and record tunes on the Spectrum.

When it's loading, the five music lines appear on the screen and the treble clef is printed at the start. The notes are crotchets, of which there are four to a bar. Once loaded there are two possible modes you can enter — keyboard or stave mode.

Stave mode allows you to enter notes on the stave in two octaves (a total of 17 notes), by pressing the appropriate letter on the keyboard — lower case for the lower octave, and upper for upper.

Keyboard mode lets you use the top two rows of the keyboard as a musical instrument to play in real time. An overlay is supplied for using the program in keyboard mode. There are 10 white notes and seven black ones.

Whatever mode you are in, i.e. however you have chosen to enter the notes, you have the option of getting information on the characteristics of the music including pitch, duration, key sig-



nature and the like. As with the other Spectrum programs of this sort, length of notes is controlled by having a variable duration.

To create a tune you must give the program the required key signature. All notes will then be readjusted. Various keys are used to insert either a rest or a note, to delete a note, to print the stave to ZX printer etc.

You also have the option to play the tune at a chosen speed. If it's not quite perfect, then you can edit it, tabbing through the tune changing certain notes as you listen.

Once perfected, you can record the data onto cassette to impress you musical friends with at a later date. The maximum length for a tune is one thousand notes.

Overall, this program is quite easy to use, and certainly gives more guidance and information than any of the others. It's impossible to create any wonderful effects, though, owing entirely to the Spectrum's hardware.

Musicmaster cost £9.95 and should be available in your local computer shop.

MUSIC MASTER	
Performance	♪♪♪♪
User friendliness	♪♪♪
Presentation	♪♪♪
Complexity	♪♪♪

FACE THE MUSIC ON A DRAGON

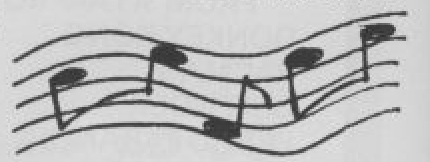
COMPOSER

If you want to face the music with your Dragon, then you've a long task facing you with Microdeal's offering. The program may be pretty versatile, but the method of entering the tune is rather long-winded.

The program, called Composer, is what Microdeal calls a Music Compiler. This means that you have to enter all of the tune into the micro's memory at the start. The machine will then convert the whole tune into a playable form and will perform it for you. For this reason, there's no facility to play live, i.e. in real time.

The system does, though, exploit the Dragon's impressive sound facilities to the full. In fact, the demo tune supplied with the program was the best sound that I've ever heard from a humble Dragon.

The main part of the program is in Basic, which probably accounts for the total lack of anything approaching speed when it comes to compiling. Anyway, the tune is entered note by note into DATA statements within the Basic listing. The Dragon has four separate voices, and you must enter a value for each voice for each note. Even if you're only using a single voice, you must still enter a rest for the



other three. This takes some time, but I can assure you it's worth it in the end.

Once you've entered all the notes into the program you type RUN. The menu then appears and you can select the option to compile the tune.

Compilation is, in a word, slow. In fact, it's very slow — around one note a second. The demo tune supplied was 232 notes in length and took just over three minutes to compile. Once you have compiled, you can select a

REVIEWS





different option and then just sit back and listen. The final result, if you're willing to spend some time at it, can be very impressive.

If you don't think you're quite up to Ludwig's standard yet, then you can enter the demos which are printed in the manual. Unfortunately, I didn't have a spare week to type one in, but if they're as good as the one on the tape then I'd be very happy (I'd also probably have very tired fingers.)

To edit the tune is simple. You exit the program and can then edit the Basic program just like any other. Changing notes is therefore possible, but hindered slightly by the machine's lack of decent editing facilities. You can also save the program (and tune) this way, too.

The best way to judge such a program is by the final result, and I think it's great. And almost worth the £15.00 charged by Cornwall-based Microdeal.

DRAGON COMPOSER	
Performance	♪♪♪♪
User friendliness	♪♪
Presentation	♪♪♪
Complexity	♪♪♪♪

HOW TO CHANGE YOUR TUNE

SPECTSOUND

If you've tired of the Spectrum music program published in this issue then you could always try Spectsound.

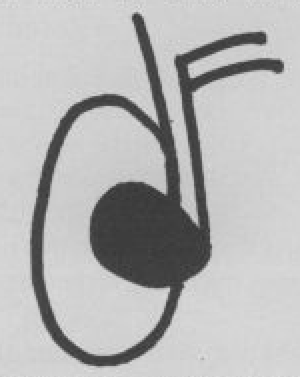
As far as producing sounds goes, the programs are very similar. The middle row of the keyboard can be played like an organ, while two other keys are used to shift the octave up or down.

It's unfortunate that the Spectrum's sound capability is so limited without adding extra hardware. This program is written in Basic and the only sound possible is produced by the Beep command. It's possible to make different sound effects by using machine code subroutines in the program, but for some reason they're not included here.

Potentially the most exciting part of this program is the facility to record and edit tunes in the computer's memory and to play them back or store them to cassette. However, a limit of the machine's sound generator is that the program can only play one note at a time.

Recording is not done in what's known as real time. This means that you can enter notes only into the memory and not the timing. If you want pauses or long notes than you'll need to enter rests as well. This does have the advantage, though, of allowing you to play slowly and then play back at a normal speed.

The keyboard does not function as a true organ, with respect to the way notes are produced. What should happen ideally is that the sound is produced for as long as you have your finger on the key, and stops when you take your finger off. Doing this on a



Spectrum is difficult. In fact in Basic it's impossible.

So what the company has done is to provide notes of a fixed length. You then use two keys to either raise or lower this value. This will also vary the playback speed. This system is exactly as used in the Spectraphone listing in this issue of *C&VG*.

C&VG produce a monthy magazine that not only includes a game for most home micros but which is packed full of articles and reviews. It seems incredible that a software company could charge over £6.00 just to buy a magazine quality program! Lucky you — you've already purchased this magazine!

If you'd like to compare the two for yourself, Spectsound is from PDQ software in Kent.

SPECT SOUND	
Performance	♪♪♪
User friendliness	♪♪♪
Presentation	♪♪♪
Complexity	♪♪



COMMODORE IN GOOD VOICE

ULTISYNTH

The 64 has some very advanced sound features but no one has exploited them fully until now.

Ultisynth is a full synth package for the Commodore machine and requires no extra hardware. The computer keyboard is used for all effects and also for playing the notes. While it's not the ideal solution, it is cheap and works adequately.

The program comes on cassette and is complete with a comprehensive 50 page manual. The full potential of the program is beyond the scope of the manual and, although it details all of the system's functions, the only way to really get to know it is to sit at the keyboard and play.

Loading the tape takes just over seven minutes which gave me a little time to read the manual and to appreciate the complexity of the program. Once loaded, the main menu allows you to choose one of the seven options.

You're recommended to try option one first, so I did. This puts you into record mode, where you actually enter your tune into memory. Unlike any other similar program I've seen for any micro, this allows you to play in real time. What this means is that, when you play back your masterpiece, not only will the notes be as you played them but so will all the timing as well.

The alternative to this is called compose mode, where the notes will simply be played back one by one with a fixed delay between each. The delay can be set by the user. This program has a compose mode as well.

Playing from the keyboard uses voice one while voices two and three are for pre-set rhythms and accompaniments which you can program and then play along to. It's possible, and also quite fun, to have all three voices playing at once.

Obviously there are facilities to set different waveforms for each voice, alter the envelopes and add special effects like glide. Then there are pulse wave and pulse width commands, lo and hi pass filters and layering of voices. You can also synchronise the voices. When you've worked out all that, you can progress to modulation, pitchbending (sounds like a sport) and more clever stuff.

And when Symphony Number 1 for Three Commodore 64s is complete, you can save the whole thing to tape in a form which the computer will reload



at a later date, just in case you discover you've left two consecutive fifths together. (That's a musical term, by the way).

That's not all. There's a lot more in the manual, and there's plenty that isn't, too. You'll discover so much by just sitting at the machine for a few hours. And the final results are pretty impressive, too.

This is certainly highly recommended for serious music enthusiasts and budding Beethovens everywhere.

Ultisynth runs on a Commodore 64 and is produced by Quicksilva. It costs £14.95.

ULTISYNTH	
Performance	♪♪♪♪
User friendliness	♪♪♪
Presentation	♪♪♪♪
Complexity	♪♪♪♪♪

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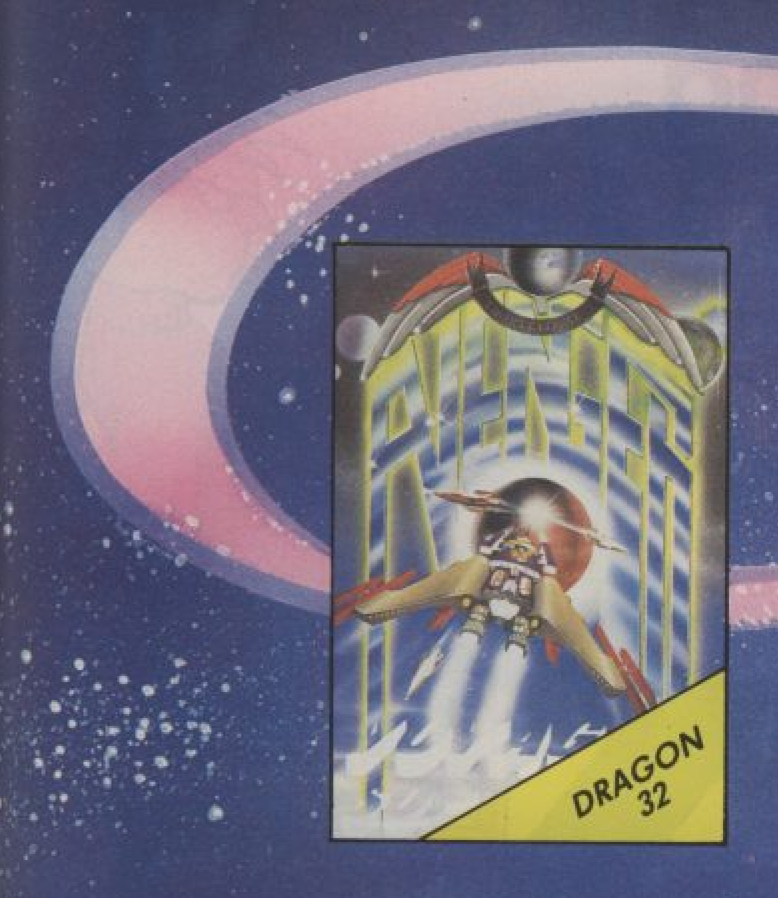
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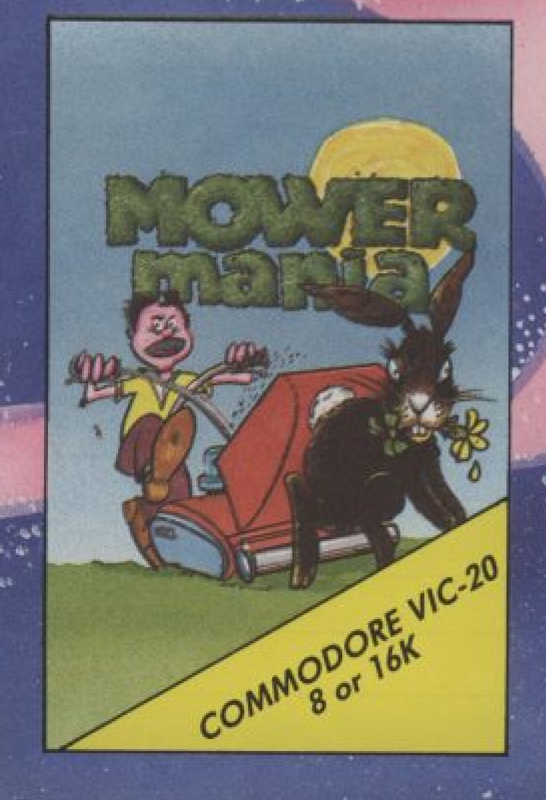
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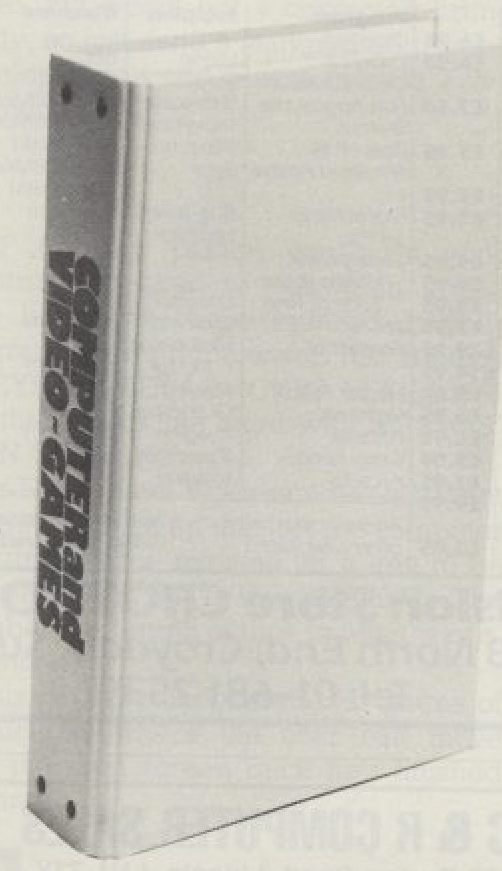


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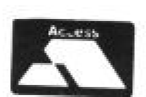
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B ACK again folks! I have to admit to a few hiccups in the Book of Games in the Feb. issue.

The shuttle program for the BBC micro caused some headaches. Line 540 should read REPEAT UNTIL ADVAL(0): TIME=0 and not TIME= as we printed. Electron owners came in for a bashing on the Front Gunner listing. The bugs overdid themselves and we missed part of the game, but we've got a corrected listing ready, so just send a stamped addressed envelope to us and please mark it 'Front Gunner'.

I F for any reason you want your Spectrum checked to see if an upper case letter has to be entered in your program, here's the answer. Just replace INKEY$ with LETA$=CHR$ PEEK 23556 and then check the letter with IFA$="S" THEN GOTO 100.

Mr Edwards of Wrexham has also sent Program Extra a tip that lets the computer wait up to three minutes for a key to be pressed: LET T=7997– USR7997. The variable T is length of time in fiftieths of a second.

This is particularly useful for pages of instructions where the user can move onto the next screen once he's finished reading.

T HE Quantum Leap — the new Sinclair personal computer — looks set to repeat the performance of the Spectrum and ZX81. Sinclair have begun a new approach to home micros. The QL signals the end of the race to produce the cheapest colour computer and a move toward producing more 'professional' computers.

It's not that many years since the most a home micro could offer was 1k of memory and very primitive graphics. 128k, two micro drives, RS232 interface and hi-res graphics all for £400 three years ago was an impossibility — today it's a reality.

The QL uses a Motorola 68808 — a 16 bit central processing chip. Most home micros, like the BBC and Commodore 64, only use eight bit chips. This new CPU is much faster and can handle a much greater amount of memory — the QL is expandable up to an incredible half a megabyte of RAM.

Another feature that was only found on much more expensive computers is 'multi tasking' — the ability to run more than one program at one time. The QL can, in fact, run a total of 20 simultaneously. So you can write a letter and play Pac-man at the same time...?

Sinclair have stressed that it's not a games machine, but with a 100k of memory and higher resolution graphics than the BBC, I'm sure software companies will be chomping at the bit to get their hands on a QL.

Y OU can now make a lasting impression on your Atari computer. Mr A Collier of Middlesex has discovered a way of customising the screen display on an Atari 400 so, whenever the system rest button is pressed, your very own personal message will appear on the screen.

This can be done by placing a small machine code program in the special location that the computer uses when it's turned on. The position of this location can be found by PEEKing memory location 9.

With a little knowledge of machine code, it's easy to produce your own title pages. 'I LOVE *C&VG* perhaps?

D ESIGNED characters for computers have always been tedious and difficult to use. You could spend hours keying in numbers before you found just the right shape and colour.

Mr E Horner has produced a program that goes part of the way to solving this problem. This short listing for the Texas not only lets you design the shape of the character with ease, but also colour it with any of the colours from 2-16.

```
10 CALL CLEAR
20 CALL SCREEN(12)
30 INPUT "CHAR CODE:":A$
40 INPUT "COLOUR:":COLOR
50 CALL CHAR(105,A$)
60 CALL COLOR(10,COLOR,12)
70 CALL HCHAR(15.15,105,1)
80 PRINT "PRESS Y TO CONTINUE".
90 CALL KEY(O,K,S)
100 IF K=89 THEN 10 ELSE 90
110 END.
```

T HE Atari 600XL is claimed to be able to run all the software written for the older 400 and 800 models — that is as long as it's written by Atari themselves.

The new machine has had the ROM slightly rewritten but this won't cause any problems if the proper machine code entry and exit points are used. Unfortunately, many of the games written by independent software houses for the Atari don't use these standard routines. So remember to check the games before you buy.

This is the final Program Extra for the time being — so we'd just like to thank everyone who wrote in to us with hints and tips. We're still interested in hearing your comments on our programs and receiving your tips on making the games that bit better. Remember you can still write to Bug Hunter at the same address — *Computer and Video Games*, Durrant House, 8 Herbal Hill, London EC1R 5EJ to pass on any information. See you soon!

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(On The Pyramid, please send your high scores direct to Fantasy at the address on the cassette inlay and NOT to *C&VG*. Fantasy have their own way to verify scores.)

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1) D. Iles, Bridgewater, Somerset — 2,112,762
2) Andrew Milner, Hull, Humberside — 1,747,681
3) Robert Fairman, Thorplands, Northampton — 600,119
4) Stephen Laverback, Selby, N. Yorks — 153,744
5) Paul Scott, Wealdstone, Middx — 149,564

ATIC ATAC

1) Andrew Grimshaw, Lantern, Manchester — 162,045
2) Ben Williams, Kidlington, Oxon — 476,309
3) David Still, Pickard St, London — 137,280
4) Jonathon Southern, Leeks, Staffs — 129,185
5) Mark Akeroyd, Sheffield, South Yorks — 73,385

DIAMONDS

1) A. Janota, Coventry, West Mids — 5,701
2) Joe Singleton, Willow Drive, London — 4,453
3) J. Marshall, Clifton Estate, Nottingham — 3,854
4) David Gordon, Lamballe Road, London — 3,149
5) Clive Gregory, Denbigh Road, Hounslow — 3,197

JET-PAC

1) Lee Milne, Lancaster, Lancs — 12,892,750
2) John Thake, Ely, Cambridge — 12,857,815
3) Alan Ball, St Helens, Merseyside — 8,930,385
4) Jonathon Jones, Solihull, West Mids — 7,306,857
5) Elliot Potts, Herne Bay, Kent — 5,747,530

MANIC MINER

1) Daryl Unwin, Camberley, Surrey — 5,000,083
2) Paul Rattray, Kinnoull, Perth — 2,642,037
3) Julian Rignall, Dyfed, Wales — 2,000,923
4) A. Procter, Leeds — 1,970,815
5) Stephen Lynch, Wallasey, Merseyside — 1,763,590

PARSEC

1) Stephen Lawson, Bramely, Leeds — 5,534,700
2) Grant Smith, St Albans, Hertfordshire — 4,327,000
3) Ian Cartwright, Stoke on Trent — 3,576,100
4) Brian King, Canterbury, Kent — 2,483,200
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PLANETOID

1) Paul Dhonan, Reigate, Surrey — 696,200
2) Seth Christopher, Willaston, S. Wirral — 694,300
3) Matthew Constable, Andover, Kent — 682,800
4) Peter Harrison, Exeter, Devon — 593,550
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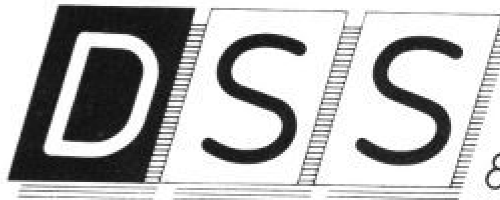
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2) Graham Phillips, Chippenham, Wilts. — 136,233
3) Steven Lea, Sheffield — 136,022
4) Simon Hawkins, Cheltenham, Glos. — 135,999
5) Michael Grove, Birmingham — 135,934

ZALAGA

1) Mark Davis, Helton, Suffolk — 1,782,000
2) Rory MacDonald, Holloway Park, Ayr — 1,693,470
3) Tim Rigby, Telford, Shropshire — 1,065,330
4) David Patrick, Kilsyth, Glasgow — 517,360
5) Jason Julyan, Turvey, Bedford — 410,330

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KBOOM!!!!
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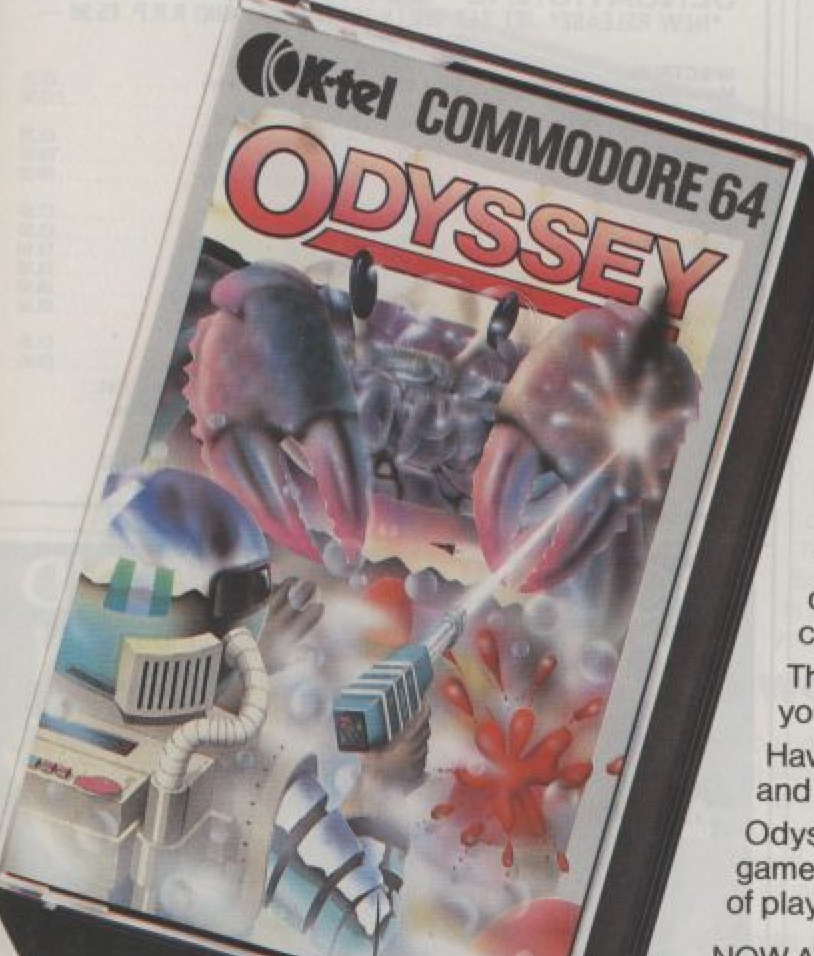
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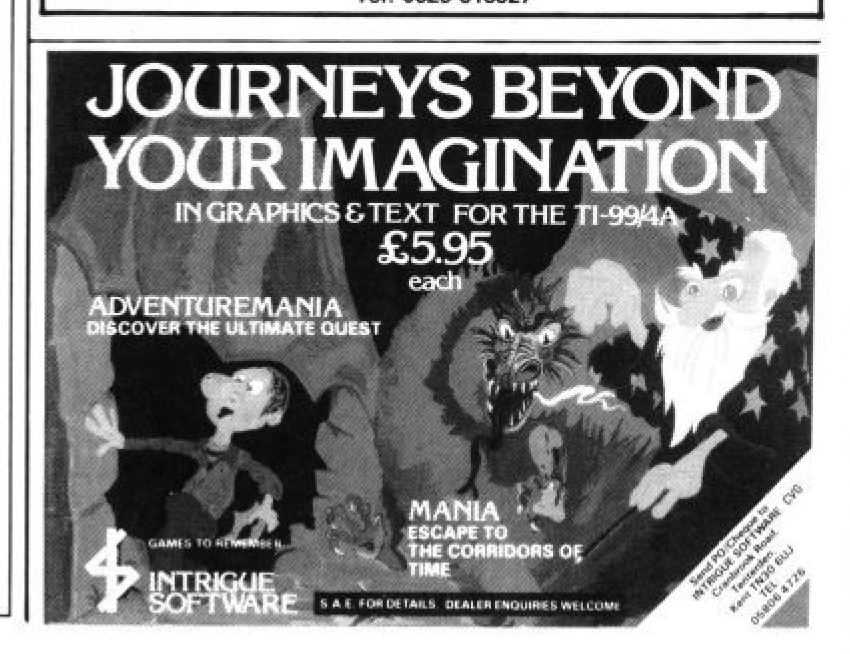
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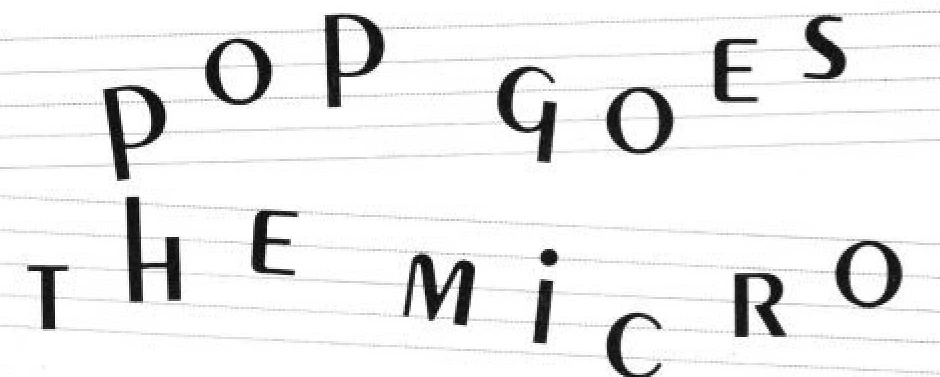
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POP GOES THE MICRO

Many top pop groups use computer technology to help make their records top ten hits — and not just in the recording studio. Nowadays many instruments can be linked with computers, allowing groups to reproduce studio sounds when they perform live. Musicians like Vince Clarke pictured — the man who will be casting a critical eye over your musical efforts in our Micro Music contest — who uses a super-computer called the Fairlight CMI to help him compose hit tunes. We asked computer music expert Mark Jenkins to bring us the low-down on hi-tech in the world of pop.

WHY ARE micros useful for music? And why would you want to turn your micro to musical ends when you could quite happily use up all your micro time playing games? The reason lies in the nature of music itself — a true art which demands great creativity and yet depends largely on a few simple numerical relationships. Mastering both these aspects of the musical process can be infinitely rewarding.

In the past couple of years computers have made great inroads into commercial music, to the extent that maybe half of the Top Ten records at any given time will use a computerised composition, sound production or recording device. So don't feel that the home micro enthusiast has nothing to offer the world of commercial music — experience gained on small machines can stand you in good stead in many of the most advanced studios in the world.

The example of scores of stars such as *The Human League, Tears For Fears* and *Depeche Mode* attest to the influence of computerised music.

There are three main ways in which standard home micros — as opposed to dedicated music systems such as the Fairlight Computer Musical Instrument — can perform a musical task.

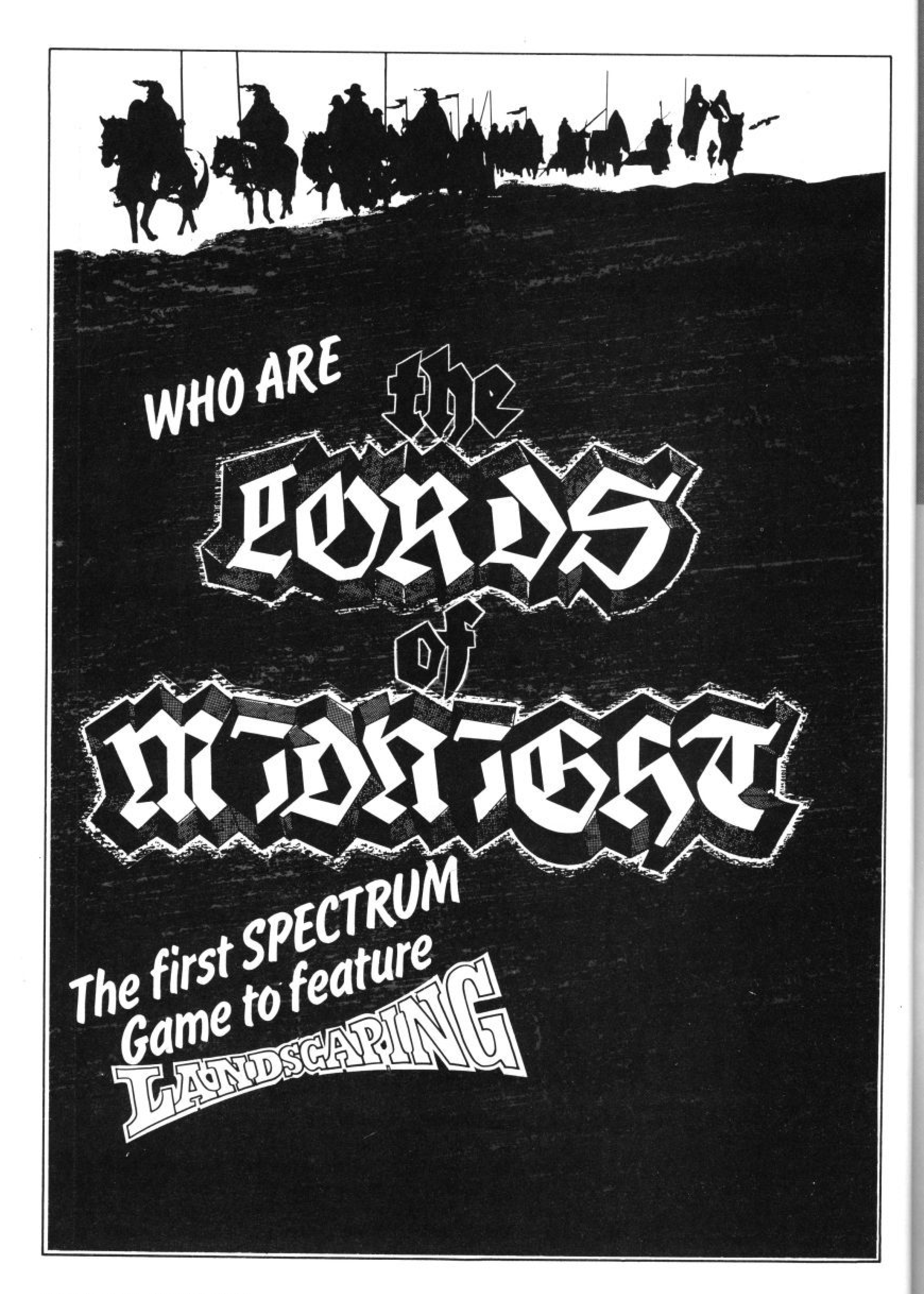
These are using built-in sound functions to play tunes, controlling additional hardware in the form of effects generators or "voice" cards to produce complex sounds, and controlling existing musical instruments — usually synthesizers — for complex composition. We'll look at each of these three methods in turn, and conclude with a look at the typical computer-equipped recording studio as it may look in three or four years time.

MAKING MUSIC

It's very simple to get some sort of musical effect out of most micros — all the programmers' handbooks will have a short listing to get a scale, an arpeggio or even a short tune.

One obvious exception is the ZX81, which has no sound facilities, and the Spectrum is little better, although we reckon our music program makes the most of this machine. It can produce a single beep at various pitches and with various lengths, but that's about it, particularly as the machine uses a very basic piezo instead of a speaker. Lots of cheap amplifiers are available from Fuller, Kelwood, and others, however, and one of these is really vital if you want to make serious music on your micro.

Owners of the Vic-20, Acorn and Dragon are better off, with both white noise and one or more oscillators available. A few musical software packages for such machines are now out, but these are usually games or educational programmes rather than "compose your own symphony" types.


WHO ARE
the
LORDS
of
MIDNIGHT
The first SPECTRUM
Game to feature
LANDSCAPING

One for the Commodore 64 is Softcomm's *Dancing Feats* which uses a joystick as a musical instrument and can help you compose and replay quite complex accompanied pieces, but then the sound facilities of the 64 make this practical — there are three channels plus white noise, ring-modulator for complex tones, and filtering.

Similar facilities exist on the BBC B, Oric, Sord M5 and Lynx, so in practice quite complex sound effects or musical patterns are possible. These could consist of tunes in three-part harmony, perhaps accompanied by white noise effects for percussion backing — not exactly *New Order*, but better than nothing!

There are some composition packages available, such as Atari's Music Composer which will run on their 400, 800, 600 and 800XL models. It's a cartridge-based program which gives you a menu of alternative functions — Edit Music, Arrange Music, Save, Retrieve and so on. Some of the musical instrument manufacturers are going into micros in a big way with similar programmes, and Roland's Compu-Music hardware and software can match such compositions with drum machine-type sounds and musical notation of your compositions.

This would involve a pretty substantial investment, but represents one logical step after your compositional imagination becomes limited by your micro.

Compu-Music won't do much for the nature of computerised sounds though and, as we'll see, there's another way around that particular problem.

SOUND ADVICE

The built-in sound facilities on most micros are very limited, for simple financial reasons — the number of users wanting complex musical functions would not justify the expense of the circuitry involved.

The next step, then, is to add a little more hardware, and the simplest units give a wide selection of sound and musical efforts which are ideal for writing into computer games.

The Petron Trichord, for instance, is a little black box for the ZX81 and Spectrum which has three sound channels and a white noise generator for explosions, waves and random sounds. It has a musical range of more than eight octaves and can produce some very rewarding three-part harmony music, with over 6,000 chords for a 48k memory — in other words, a pretty lengthy composition. It's really very easy to define musical notes, and no real knowledge of music theory is needed.

The problem with the Trichord and similar inexpensive units is that the quality of the sound is very basic — a simple sine wave in a lot of cases. You won't be able to sound like Vince Clarke without going to a little more expense, because unfortunately the more complex "voice" cards tend to be manufactured for up-market computers such as the Apple.

One of the great advantages of the Apple is the "slot" system, used to add on new facilities, and into these slots can be fitted voice cards such as the Mountain Hardware or Soundchaser systems.

In a system such as Alpha Syntauri, these voices can be put to a vast range of fully professional uses. Sounds can be laboriously defined, swept with harmonic filters, split across a five-octave keyboard, merged and stored on disc.

Real sounds can be sampled by the computer and replayed, and very lengthy compositions with many tracks can be composed on the computer. Games, educational software and composer's aids are all available, and many of the country's top musicians and universities are using the system for a wide variety of music-related activities. And at the end of the day you can still work out your finances on it!

MICRO CONTROL

Finally, we come to micro control of existing musical instruments. These would usually be synthesizers of one kind or another as previously mentioned, but recent developments have made this generalisation less accurate, as we shall see.

Firstly, a brief description of the conventional synthesizer, which was developed by Dr. Robert Moog (as in *rogue* rather than *mood* — which is what you get for having Hungarian ancestors) in the Sixties.

All the parameters of Moog's synthesizer were controlled by varying voltages, and so a pattern of voltages produced by a keyboard or an automatic device (sequencer) when applied to an oscillator would play a tune. For that matter the tone (filter setting) and other parameters could be voltage controlled.

Micros excel at storing information such as musical notes as we've seen, but to gain direct access to a synthesizer is difficult as micros produce digital information rather than voltages.

What's needed is a Digital to Analogue Converter (D/A) and although these are common parts of sequencer and other designs, they aren't exactly common in the form of a simple box.

A design for the Spectrum has been published in the specialist magazine *Electronics & Music Maker* and a ZX81 design in *Electronic Soundmaker* magazine, both acting as sequencers which will store long strings of notes and plug into the Voltage Control input of a cheap single-note synthesizer such as Roland's SH09.

Help is at hand, however, with the MIDI, or Musical Instrument Digital Interface. As its name implies, this system speaks a digital language and operates in serial form as does the RS232 computer interface, and so it's much more friendly to micros.

The cheapest synthesizer currently fitted with MIDI is Korg's Poly 800 at around £600, and the system is becoming a much-needed standard. The synthesizer manufacturers are marketing interfaces which allow your micro to "speak" MIDI, and as it's a universal system there are theoretically no restrictions on which MIDI-fitted synthesizers can be used.

Sequential Circuits market a MIDI interface which allows the Commodore 64 to act as a versatile 2000-note sequencer, composing device and music notator, and the unit will eventually work with the Spectrum and Atari as well. An independent company, Upstream, are marketing a Spectrum MIDI interface for a similar price — around £170 — and there are more to come.

The point about MIDI is that it can be designed into any digitally-controlled musical instrument, and so in the immediate future we'll see MIDI drum machines, pianos and even guitars. Anything fitted with MIDI can be controlled with your micro, so the realisation of a totally computerised studio is very close indeed.

Looking forward a little, we can see that it will be very easy to use a micro to control musical instruments — within a few months you'll be able to plug your Spectrum, Commodore, Atari and so on into a professional synthesizer via a relatively inexpensive interface.

Some instruments are already being designed with the ready-to-use memory capacities of home micros in mind, for instance MPC Electronics' Music Percussion Computer, a versatile drum machine which uses a ZX81 or Spectrum as a memory bank.

Sequential Circuits have a new system, Six-Trax, which uses a Commodore 64 to compose tunes, store rhythm patterns and move from one pattern to the next.

A Commodore 64, or certainly an Apple, could sit at the centre of a bank of synthesizers and drum machines, playing compositions on them, helping the composer to come up with new songs and all the time displaying exactly what is playing and what options are available.

Remember that micros can accept all sorts of inputs, from heat sensors, motion detectors, video cameras and so on, so it would be possible to compose using all of these unusual signals.

All these musical advantages derive from the familiar number-crunching capacities of the home micro, which leads us to wonder what Bach, with his lengthy but mathematically balanced compositions, would have made of the Lynx or BBC matched with a couple of disc drives and maybe a little Moog Synthesizer. The other way to look at it is that, in a few years time, the modern equivalent of Bach may be working with just such a system.



Put the thrill-power back into your programs with BIG K!
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The best part of some games is the excellent sound effects which are often built in. The crash of an ill-fated driver in Road Race, the cheering crowds in international soccer, the extra terrestrial murmurs emanating from distant planets in far-off solar systems.

As well as purely abstract sound effects, computers can generate music. This means producing real notes in sequence to make a tune. Many programmers actually incorporate music in their games, either to supplement or to replace the normal sound effects.

If you've ever played China Miner on the Commodore 64, for example, you'll have recognised Scott Joplin's Maple Leaf Rag accompanying your game. Spectrum fans will have heard "In the Hall of the Mountain King" from Greig's Peer Gynt suite while burning the midnight oil in a last desperate attempt to escape the Mutant Toilets and the Bouncing Cheques in Manic Miner.

And so there came a time when software houses realised that the music in some games was so good, it would be worthwhile creating programs which did nothing but enable the user to play or hear music on his or her micro.

A BBC tape landed on my desk recently which played Bach's Toccata & Fugue in D Minor in beautiful harmony for 11 glorious minutes.

Many software companies now produce packages to let you make your micro play music. The official Sinclair offering was launched recently for the Spectrum which allows the rubber keyboard to act like a musical instrument (no you don't hit it, you play it). Commodore has a music composer cartridge for the 64 which has some quite advanced features. It's rumoured that they also have a sequencer cartridge on the way.

For the non-musical amongst us, a sequencer allows you to programme a set of notes into the machine which will be repeated over and over again. You can use this as backing, and then play the actual tune over the top, making it easy to produce reasonable-sounding music with the minimum of effort — just like Duran Duran, really.

BBC owners who'd rather make their own sweet music than have another programmer do it for them can buy Music Processor from Quicksilva, or the not-as-good Music program from BBC Soft. Quicksilva also has a Commodore 64 program named, in true Newspeak fashion, Ultisynth.

You'll find reviews of commercial programs elsewhere in this magazine, but if you don't want to spend your hard-earned money on them then you could always use the ones which we've printed.

The music listings ALL work (honestly, I've tested them). However, they're



obviously not as good as something costing 10 times the price of your copy of *C&VG*.

They will, though, allow you to play tunes on your micro. The listings as printed are quite simple and don't have an enormous number of special features, but you can add to them if you wish. Perhaps you'll want to give a greater range of notes, or special effects.

If special effects are your interest then you'll need to know something about what's called the envelope of the note. There's a direct command for defining envelopes on the BBC. They take a little time to get to grips with, as does the envelope command on the Beeb with its 14 parameters!

Think of a single note played on, say, a piano. As soon as you hit the note it rises straight to its maximum volume. Compare this to someone blowing a trombone. Unless the person blowing it has lungs like an air compressor, then the note will rise much less sharply — taking time to reach maximum volume. This feature of a note — how long it takes to reach peak volume — is called the Attack rate.

Got that? Good. Now imagine keeping your finger on the piano keyboard after you've played the note. The sound continues but loses some of its original volume. This is known as the rate of decay, which has nothing to do with nuclear reactors. The amount of time that the note stays at this reduced level is known as the sustain time. After a while, though, it will decay to nothing. The speed at which it does this is known as the decay rate.

So a note is made up from four definable values, namely attack, decay, sustain and release. If you've got one of those small Casio VL-tone instruments, you'll now understand what the ADSR setting means!

Developments in technology are helping to widen the part which computers are beginning to play in music. Many bands now perform exclusively on electronic instruments which can generate the sounds they require. Although a large amount of skill is still required to produce something respectable from one of these machines, the job of the modern musician is gradually changing to that of a computer programmer.

One of the most popular (and expensive) synths around is called the Fairlight and no big-time, super-rich band should be without one. For your £20,000 you get a computer complete with keyboard (both sorts) and even two 8-inch floppy disk drives to store the tune on. Imagine wearing that on a strap round your neck.

Programming such a beast is no mean feat, but you can get some of the most amazing effects. It also has the facility to do what's called Sound Sampling.

Normally, when you use a synthesizer, you start off with a bank of a couple of dozen pre-programmed sounds which you can then alter out of all recognition (the clichés are really flying today) by pressing a few buttons and twiddling the odd knob or two. Sound sampling means that you can start off with any sound you like as a base for your knob-twiddling. Just connect a microphone to the machine and play the sound into its memory. You can then do what you like with the sound, or play it in any key on the keyboard.

You've probably heard that awful record by someone going under the name Wonderdog, called Ruff Mix. It featured a dog barking a tune (and we all know where he lived, and what his favourite composer was, don't we?). Now I hate to disappoint you, but the hero of this record (you might call it a hot dog) was a computer. All the musician did was to play a dog into his computer and then he could play the keyboard and it would sound like a woof-woof.

Following on from the success of such idiotic material came a flock of sheep singing Baa Baa Black Sheep. Needless to say, it didn't make Top of the Pops (or TOTP as they call it in Smash Hits).

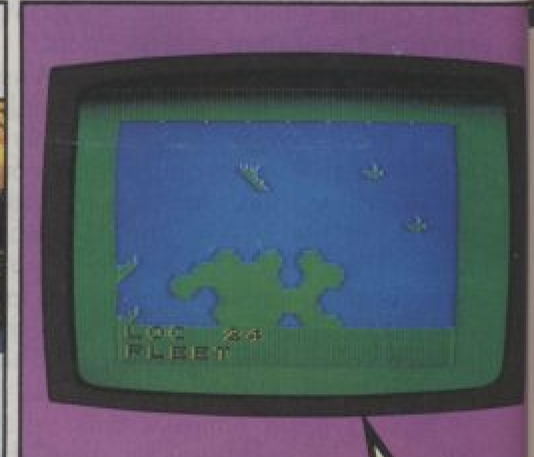
So that's about it, really. As you've realised, computers and music have a lot in common. And it's a link which is growing all the time.

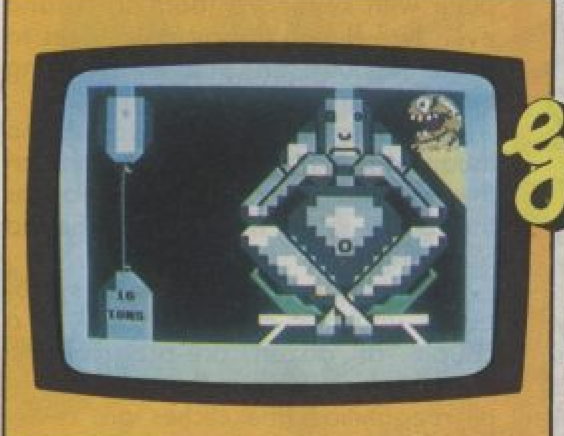
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CHALLENGING SOFTWARE



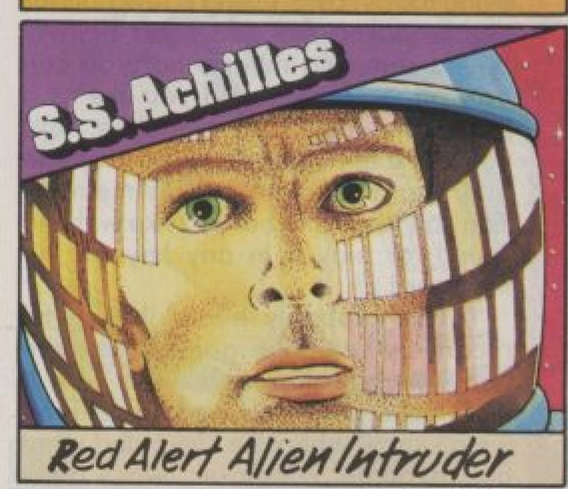


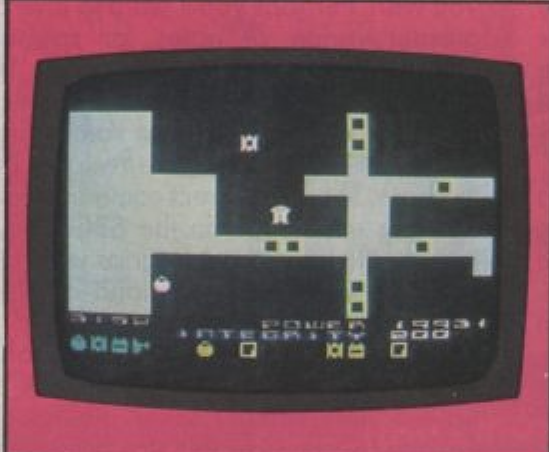


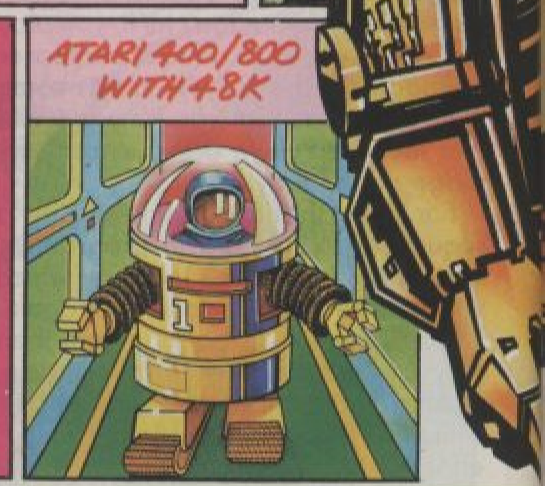




















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HERE COME THE C&VG SUPER HEROES!

Zap! Pow! Kerrrunch! Shut up a minute can't you! I'm trying to tell the readers about next month's terrific issue of *Computer and Video Games.* These Superheroes are a really noisy bunch — even louder than a bowl of Rice Krispies! Still, now that I've managed to get them out of the office for a few minutes, I can tell you all about the amazing things we've got in store for you in our May issue.

Mr Adventure, Scott Adams, has been hidden away for months now working on his brand new Adventure games based on two superhero characters, Spiderman and the Hulk. We've got an exclusive review of these two brand new games, plus an interview with the man himself, written by our ace Adventurer Keith Campbell.

Just a minute please. My typewriter is full of Spiderman's web — horrible sticky stuff it is too. There, that's got rid of it. Now on with the show! As I've said, we will be taking an in-depth look at the Hulk and Spiderman adventures — Keith's got hold of the only two discs in the country — so you know where you'll be able to read all about it first!

Our May issue also sees the start of a brand new play-by-mail game called Quo Vadis? Fancy title eh? Anyhow, we promise that it's going to be just as exciting as the Seventh Empire — but just that little bit easier to play. And there will be big prizes for the winners — mark my words! Quo Vadis? is a cross between a puzzle, a computer game and a treasure hunt and will keep you busy for hours.

Talking about being busy for hours, Keith Campbell — yes, it's that man again — has been busy with his team of Adventure reviewers to bring you the first in a regular bi-monthly special Adventure review section. He has been looking at all the latest releases and will be bringing you an up-to-date round-up of the best — and the worse — Adventure games around.

We've also managed to persuade the Bug Hunter to bring us a new irregular feature on hardware add-ons for the games player — or more accurately their computers! The Bug Hunter will be taking a long hard look at things you can plug in, add on or wire up.

Plus a second look at our brand new Software Top 30 brought to you with the help of National Opinion Polls and the *Daily Mirror* newspaper.

All this and all your regular favourites too in the only reader-friendly magazine around. Don't miss it — or we may send Spiderman and the Hulk to find out why YOU haven't got a copy of *C&VG* alongside your computer. You know it makes sense!

Excuse me, I have to go now. The Hulk has decided to start a bit of demolition work in the car park outside. I don't think Lord EMAP is going to be very pleased when he find his new Rolls Royce on the roof of that tower block . . .

PLEASE ENTER THESE SCORES IN THE C&VG ARCADE GAMES CHAMPIONSHIPS

My high score is:	My high score is:	My high score is: ....
It was scored on: .... (name of machine)	It was scored on: .... (name of machine)	it was scored on: .... (name of machine)
The manager of the pub/arcade who witnessed my score is:	The manager of the pub/arcade who witnessed my score is:	The manager of the pub/arcade who witnessed my score is: ....
His/Her Signature	His/Her signature	His/Her signature ....
Name/address of pub/arcade:	Name/address of pub/arcade:	Name/address of pub/arcade: ....

My name is ....

Address ....

.... Telephone ....

M·O·N·T·H · N·E·X·T · M·O·N·T·H

C & VG SOFTWARE FORM

Have you written a games program which you feel is just right for C&VG? If so we have come up with a form to ensure that we can test it out and give you our views on it, as quickly as possible.

We would prefer a tape and listing but can work from just a tape and will return it to you if it doesn't find its way into the magazine. We will also need an additional sheet explaining the game and its theme. And any documentation like lists of variables or how certain routines are working, would be of great help to beginners. Please make sure that your name, address and the program name is on everything you send us, including the cassette itself.

This form will merely help us to keep a check on your game as it goes through our testing process and make sure we have all the information we need to present it properly in the magazine.

If you don't want to cut up the magazine, we will accept photocopies or close copies of this page. This form will be appearing regularly in C&VG issues from now on.

Remember we pay £10 for each listing published and you could win our Programmer of the Year Contest where we will try to turn the winner into a best-selling games author.

Program name: ....

Machine make: .... Model ....

Other models it should run on: .... Number of K needed to run it: ....

Other equipment (joysticks, Extended Basic, add ons, etc.) needed to run it: ....

Author's Christian name: .... Surname: ....

Address: ....

....

.... Tel: .... Date: ....

Type of game: (If original please say so) ....

Loading instructions: ....

Game instructions: (If not included in the listing) ....

....

....

Office use only

Date received: ....

Acknowledgement sent: ☐

Name of evaluator: ....

Date sent out: ....

Date due back: ....

Needs to be returned to author for alterations: ☐ Date sent: ....

Due to be published in issue of magazine. ....

Evaluator's comments

Good enough to publish ☐

Needs some tidying up ☐

Not worth publishing ☐

Same game already published on this micro ☐

Wouldn't load ☐

M·O·N·T·H·N·E·X·T M·O·N·T·H·N·E·X·T

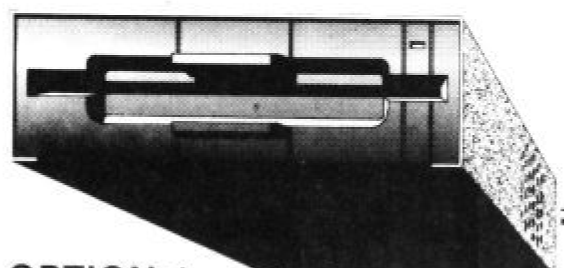
Which Disk Drive?

'Which disk drive should I choose for my BBC?'...

'Should I have a single or dual unit?'...

'Can I up-grade a single unit to a dual drive?'...

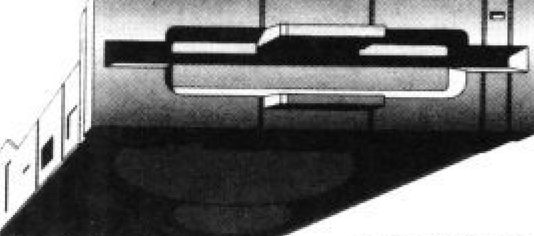
All these questions and more are now answered by the Microstyle OPTION drive. A system of disk drives designed to be flexible, cost concious and practical. If you're after a single drive choose 'OPTION 1', however, if you feel that a dual system is really the answer, but might be too costly at present choose 'OPTION 2' now and add the second drive later. 'OPTION 3' is easily installed within 'OPTION 2's' dual case at any time. As for 'OPTION 4'... well, what can we say? A superb, hi-performance dual disk system designed to expand the horizons of your BBC and to introduce you to a whole new world of computing.



OPTION 1
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100K 5¼" Single Slimline disk drive. Uses BBC power supply. Includes 'utilities disk', all leads and manual.

£185 inc VAT



OPTION 3
Single drive to fit OPTION 2

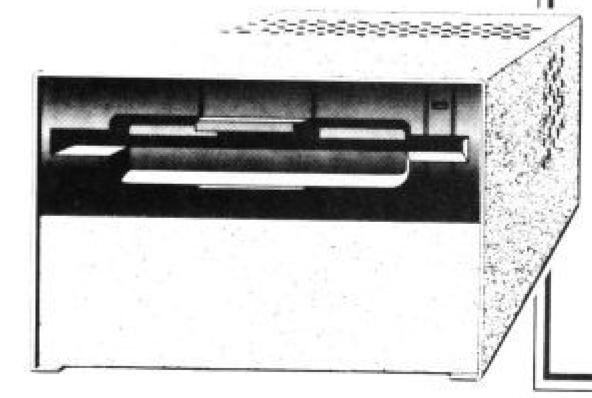
Additional single slimline disk drive, 100K turns OPTION 2 into 200K dual. (To ensure best possible results we recommend that this mod. is carried out by our own engineers.)

£149.95 inc VAT



Specifications

Running Current	12v 350m/A 5v 350m/A
Half height, single sided, 40 track	
Unformatted capacity	250KB
Data transfer rate	250Kbit/sec
Track density	48 IPI
Number of tracks	40
Number of heads	1
Power on to ready	1 sec
Track-to-track access	6msec
Rotational speed	300rpm
Dimensions	41x146x210cm
Direct drive spindle motor	
Steel band/stepper head positioning	
Head load by closing door	
Conventional door (like M2896)	
Type: Chinon (competes with TEAC FD 55A etc.)	

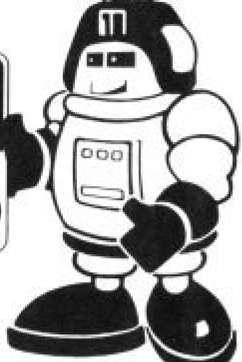


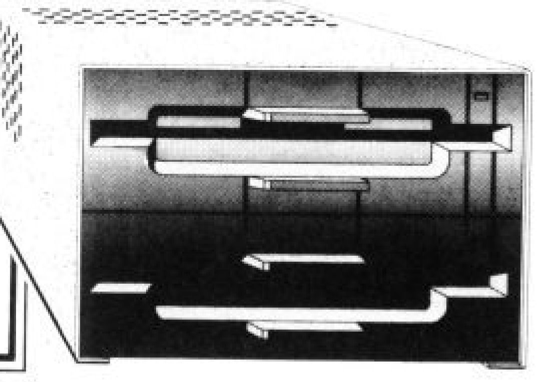
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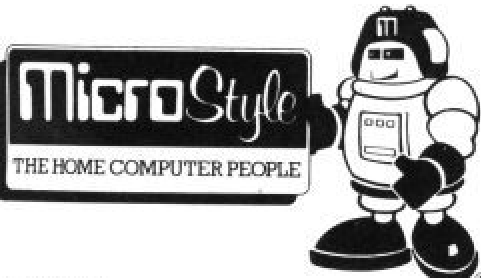
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